MEDICAL RECORD

Discuss the coming on of years, and think not to do the same things still; for age will not be denied.

—*Francis Bacon*

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Vol. 161, No. 5

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BIBLIOGRAPHY: (1) MacCorquodale, D. W.; Thayer, S. A., and Doisy, E. A.: J. Biol. Chem. **115**:435, 1936. (2) McCullagh, E. P.: Cleveland Clin. Quart. **13**:166, 1946. (3) Eisfelder, H. W.: J. Clin. Endocrinol. **2**:628, 1942. (4) Lane, F. E.: West. J. Surg. **52**:313, 1944. (5) Dunn, C. W.: Am. J. Obst. & Gynec. **30**:186, 1935.

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MAY, 1948

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Letter To The Editor

April 27, 1948

The Editor
Medical Record
215 *Fourth Avenue*
New York 3, *N. Y.*

Dear Sir:

In the article by Krontiris and Koulouris in the Medical Record, February, 1948, *page* 89, *there appears to be a serious error regarding the intravenous dosage of Novocain. The article states specifically that* 500 *cc. of* 2 *per cent Novocain Solution is administered at intervals of two hours. This constitutes* 10 *grams of Novocain, an amount* 10 *times greater than other investigators administer in two hours or more. State and Wangensteen, for example, whose work is cited by the authors, advise* 1 *gram of Novocain in* 500 *cc. of solution, to be given over a period of two hours.*

It occurred to us that the Greek authors, to whom French may well be a second language, may have used the conventional French method of writing percentages; that is, the manuscript may have read 2%0, *which in English is* 2:1000 *or* 0.2 *per cent. Consequently,* 500 *cc. of* 0.2 *per cent solution could contain* 1 *gram of Novocain, the amount recommended by American writers.*

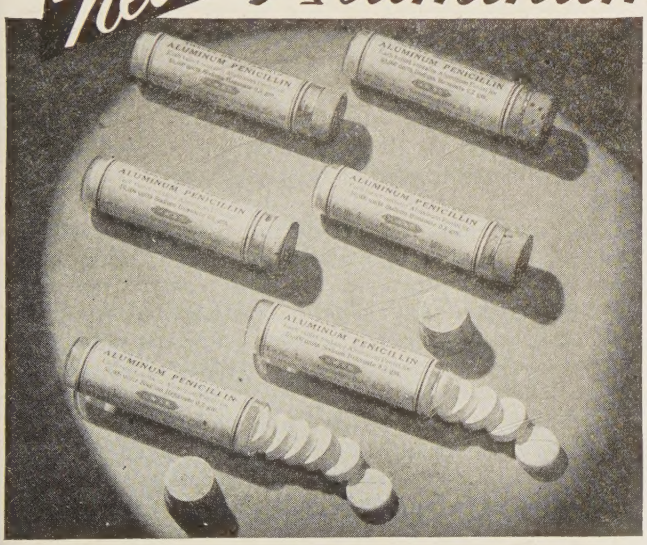
In the interest of safety, it is imperative that a correction be promptly and prominently published in Medical Record. Injection of the stated amount of Novocain might lead to severe and perhaps fatal reactions if the infusion were not stopped promptly upon the appearance of untoward effects. Such reactions would bring into disrepute a method which, properly applied, has a wide field of usefulness.

Very truly yours
WINTHROP—STEARNS INC.
J. B. Rice, M.D.
Director of Medical Research

JBR/efs

EDITOR'S NOTE: Facts presented in the Krontiris and Koulouris article, February, 1948, were published according to original manuscript.

New *Aluminum* PENICILLIN *



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Open Forum

MEDICAL RESEARCH IN THE FEDERAL GOVERNMENT

T. SWANN HARDING
Falls Church, Va.

This nation as a whole invests only around 110 million dollars a year for scientific research and development in medical and allied fields, but ten times that for other forms of scientific inquiry.

The Federal Government's expenditures follow the national pattern—for example, are less than those made in any other broad field of scientific investigation save only the orphan social sciences. Incidentally the worst orphan of all is the science concerned with the motivation of the normally irrational and highly emotional behavior of human beings. For money spent on this could indeed be well spent and might in time solve the most difficult problems without war.

Government expenditures for medical research amounted to 28 million dollars in 1947, or about four percent of the estimated 625 million dollar total it spent for all forms of research and development. Nevertheless this small amount constituted about one fourth of the national expenditure—government, industry, universities, colleges, private foundations included.

Formal medical research began in the Public Health Service in 1887, but only the second World War provided fresh funds in substantial amount and gave the government its prominent position in medical science. Nearly 25 million dollars was spent on such projects during the war years, or about five percent of the total expenditure by the Office of Scientific Research and Development. But medical research is still hampered by shortage of manpower, lack of funds, and imbalance between types of rearch.

There is still insufficient basic or what used to be called pure research. Such research is fundamental analysis, exploration, or experimentation to extend knowledge of the general principles governing natural or social phenomena. Background research is the use of facts and known principles to attain objectives clearly defined before the research is undertaken. It provides standard reference data or a foundation for further research.

Applied research extends basic to the determination of the combined effects of physical laws or generally accepted principles when specifically applied. Basic research is the most difficult and the most neglected type of all yet without its expansion all other research gradually slows down.

So far we lack a national policy for medical research. Moreover, at least by 1957, expenditures by the federal government in this field should total at least 300 million dollars a year. A national policy on medical research should immediately be formulated, both public and private organizations and institutions participating. A competent medical research committee should be appointed to examine the present national medical research program and to formulate a broad, comprehensive program to utilize change in many cardiac conditions is a decrease in the Nation's resources in this field most effectively.

The total of 110 million dollars expended for research in medical science in the current fiscal year was comprised of approximately 45 percent from industry, 28 from federal, state and local governments, 13 from foundations, 9 from voluntary associations, and 5 from other sources. The federal government has increased its investment in medical research and development from prewar averages of 4 to 5 million annually to the present figure of 28 million dollars. Its programs are carried out primarily in the Public Health Service (where the Hygienic Laboratory was founded 60 years ago), the military establishments, the Veterans' Administration, and the Food and Drug Administration.

Some such research is performed however, in Civil Aeronautics Administration, the TVA, the Department of Agriculture, the Bureau of Mines, and St. Elizabeth's hospital.

Actually there was little or no organized medical research in either the War or Navy Departments before the second World War. The Public Health Service administers nearly half our current total Federal expenditures for medical research. Certain agencies of the Department of Agriculture, notably the Bureau of Animal Industry and the Northern and Western Regional Research of the Food and Drug Administration is confined almost wholly to fields closely connected with enforcement of the laws entrusted to it.

In recent years industrial foundations, created by life insurance, food and drug companies, have entered the field with considerable funds. The Life Insurance Medical Research Fund, the Nutrition Foundation, the Sugar Research Foundation, and the National Vitamin Foundation are all notable. Laboratories such as the Squibb Institute and the Merck Therapeutic Institute perform high-quality research and have well-trained, well-paid scientific staffs with superior facilities and ample operating funds.

But the supply and production of medical scientists is subnormal and demand has expanded through increased expenditures on medical research, as part of the wholesale expansion of the national economy and also as a result of hopes for greater gains encouraged by wartime successes. It should always be remembered that the discovery of one first-class investigator in every medical school each year would more than repay any expenditure made to provide opportunities, support, and facilities for medical students who show an aptitude for research. But medical schools today are suffering from mounting deficits.

Medical research needs better coordination, especially in federal government. There should be the fullest possible interchange of information, knowledge, ideas, and project descriptions. Both intra-agency and interagency committees should be established. Above all a Federal Medical Research program should be formulated and better plans worked

out for the initiation, approval, review, financing, and evaluation of research projects.

Federal employment definitely has some advantages that are often overlooked, especially by those who affect to deplore the terrible alternative of working for the Government. Among these are job security (normally, that is, and disturbed only when violent political overturns occur and funds are cut with the axe), vacations and sick leave with pay (the two may soon be combined into one period of 30 or 40 days off with pay per year), regular increases in pay, and well-established retirement benefits.

Generally speaking the physical facilities for medical research provided by the government vary from good to lavish. Adequate funds for the operation of research programs are normally available.

Except in national emergencies, federal scientists do not work under pressure or on rigid time schedules and, of course, the more or less immediate profits required by business do not have to be considered. There is considerable freedom in choice of problems and many federal scientists work exclusively on self-selected projects.

Federal scientists have as much freedom as university scientists, often more. Federal contributions to laboratory and epidemiological studies have been considerable. The pay offered young federal scientists is usually better than given persons of comparable experience and training by colleges and universities, however the $10,000 Civil Service ceiling makes it difficult to hold investigators of very exceptional ability. They can and do so much better in industry.

Promotion, recruitment, and dismissal procedures are certainly as good in federal government as elsewhere. Unfortunately the government is miserly about travel funds and its scientists are rarely able to attend all the professional meetings they should, while visits to their colleagues, which can be most stimulating and fructifying, are all but out, unless the scientist pays his own expenses—and he often does.

Publication possibilities are of the best, however. But the majority of federal investigators prefer to publish their work in journals of their own professional societies in order to reach a wider scientific audience, though the federal agencies publish a few medical journals of some distinction. Finally too many directors of research in federal agencies lack personal research experience and incompletely understand the methods and proper environment for good work.

Nearly 60 percent of all federal projects in the medical field are strictly laboratory investigations. Clinical studies, combined laboratory and clinical, field and statistical studies, and all other combinations constitute only 10 percent each. Seventy-five percent of the Navy's projects are in the laboratory; the proportion is one-half for War Department and Public Health Service. Nearly half of all field and statistical investigations reported by federal agencies are conducted by Public Health Service (generally using its own facilities), but this type of research constitutes only about 10 percent of its own projects. The Public Health Service is also responsible for 80 percent of all disease projects and 64.4 percent of its own research is on specific diseases.

Some fields are much neglected. There is virtually no research in federal programs on civilian accidents, cerebral hemorrhage, rheumatism and allied diseases, nephritis, and influenza, all most important diseases from the lay standpoint. The relatively low place held by cardiovascular and kidney diseases is notable in view of their high place as causes of death.

The government has at present no mechanism through which systematic morbidity data can be gathered annually and periodically. Respiratory and dental diseases are particularly neglected, the latter having lagged for generations.

In the War Department, Naval Bureau of Medicine and Surgery, operating divisions of Public Health Service, and Food and Drug Administration, problems under investigation arise naturally and forcefully from their respective legal responsibilities. In the National Institute of Health and the Office of Naval Research, problems attacked are chiefly suggested by individual investigators inside or outside government service.

A total of 420 of the 990 total federal medical projects are related to specific diseases, as compared with 540 in general medical investigations. Nearly half the disease investigations deal with transmissible ailments. That is because Public Health Service, with the largest research program, has a long tradition as well as legal responsibilities in this specific field. The Service also tends to concentrate on etiology and chemotherapy, the Navy on etiology, and the Army on antibiotics, antigens and vaccines. The Public Health Service gives greatest prominence to bacteriology and allied fields, the armed services to physiology.

Granite Gables

National Health Assembly Discusses Dental Health Measure

Closing the gap between dental needs and dental care was one of the major concerns of the National Health Assembly held in Washington, D. C., May 1 to May 4. The Assembly brought together leaders in all health fields for the purpose of forming a dental health section.

At the present time dentists are able to provide adequate care for only about 30 percent of the American people. It was also brought out at the meeting that not only have we too few dentists, but too many of them are concentrated in the larger cities and in the higher income areas. Barely one-tenth of our dental clinics and less than one-tenth of our dentists are located in the ten lowest income States. Most dental facilities are situated in the East and Middle West, chiefly in the larger cities.

More adequate dental care and better distribution of dental facilities is a major concern of the dental health section, and it is anticipated that community, state and federal cooperation will be considered.

Yale Physiologists Demonstrate That Monkeys Can "Fly High"

In a report made at a recent meeting of the Aviation Physiology Section of the American Physiological Society by Dr. Samuel Gelfan, director of the Yale Aeromedical Research Unit, states that it is possible to expose a monkey to an altitude of over 14 miles in a pressure chamber and bring him out alive.

The Yale research consequently has significance for high altitude fliers and airplane passengers.

Out of all the monkeys which were suddenly exposed to altitudes ranging from 70,000 to 75,000 feet in decompression chamber tests, only one died, Dr. Gelfan reported. In this instance there were other contributory causes.

The monkeys taken to this extremely high altitude—which in nature has a temperature of about 65-70 degrees below zero Farenheit—were returned to sea level immediately at a "free fall" rate of almost 200 miles per hour. This is comparable to a man falling out of a plane at a high altitude and plunging earthwards without opening a parachute. It took almost five minutes to bring the monkeys back to sea level pressures.

Experiments on rats at Yale, which were made previously, had reached these simulated high altitudes but the monkey, which is an animal closest to man, had never been decompressed to 75,000 feet. Amazingly enough, the monkeys withstood the shock more readily than rats which experienced a 50 percent mortality in experiments. This is all the more surprising since rats are considered hardy laboratory creatures.

A full stream of oxygen was kept flowing into the decompression chamber during the entire series of experiments to simulate a condition of a man wearing an oxygen mask. At the critical point of 52,500 feet, where combined pressure of moisture and carbon dioxide in the lungs is equal to the barometric pressure, the lungs can no longer absorb oxygen even though the body is surrounded by the gas.

The Yale investigators found that the action of the heart was slowed markedly in the monkeys in all cases immediately following decompression. In one instance, a monkey's heart failed to record a single beat for four seconds—normally the monkey's heart will beat 200 times a minute or more than three beats per second. The heart rate is usually near normal again when sea level is reached.

Many of the monkeys have been studied four months after ascending to the high altitudes and no obvious permanent damage has been observed by the investigators.

Working with Dr. Gelfan was George D. Davis.

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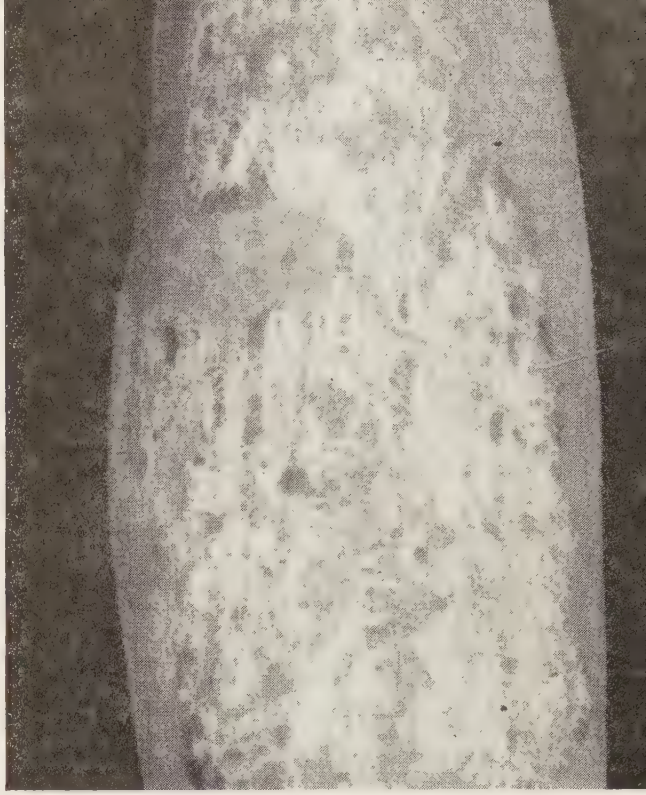

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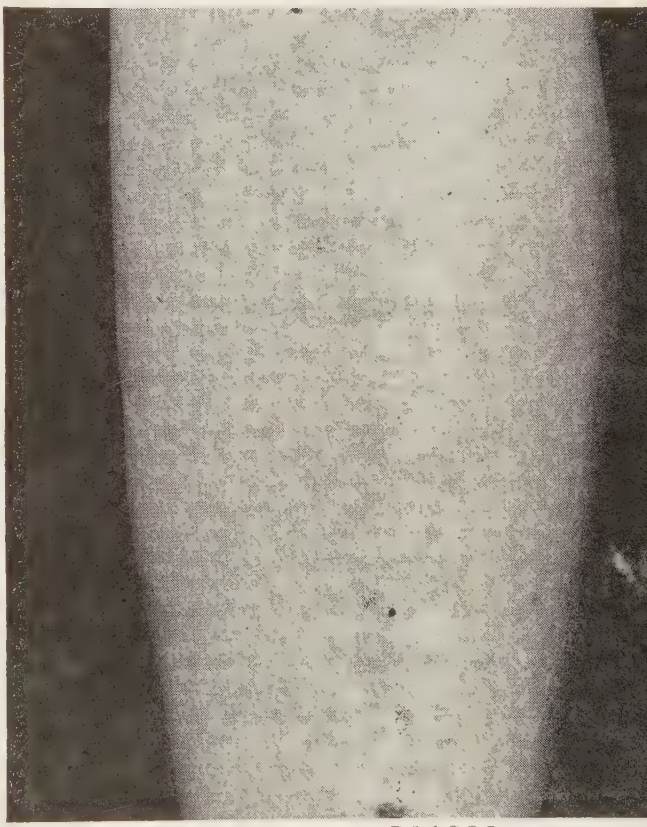

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Life Insurance Institute Claims Sharp Decline In Infant Mortality

"Infant mortality in the first year of life has been strikingly low in recent years among insured infants, with big city policyholders, regardless of their location showing a better health record than those in small towns," Richard J. Learson, vice-president and actuary of the Western and Southern Life Insurance Company, Cincinnati, said recently before the annual meeting of the Actuarial Society of America.

The death rate among insured infants was only about one-third that for all U. S. infants in their first year.

Mr. Learson's findings were based on an analysis of his company's policies written between 1941-1946 in eight middle western states (Pennsylvania, Ohio, Indiana, Illinois, Michigan, Missouri, Kentucky and West Virginia) on the lives of infants under one year of age. Nearly 60,000 infants were included in the experience, half of them being less than three weeks old when insured and an appreciable number being insured at birth.

"Increasing liberalization in the issuance of life insurance to infants in recent years, both as to age at which policies are issued and amount of protection granted, raised some question as to the hazard involved in the early weeks and months of life," Mr. Learson said, "There has not been much insurance experience available, as the issuance of policies at birth is of relatively recent origin, meeting a growing desire on the part of parents to start their children on a thrift program when costs are at a minimum.

"This analysis indicates that there is not only no special hazard involved, but the mortality experience among these new born babies who are insured is much better than the U. S. average. The death rate in the first year of life among these insured infants has been fairly consistently 38 percent of the actual first year infant death rate of all U. S. lives. In fact, the babies insured at birth or during the first day of life showed a death rate very nearly the lowest of all infant age groups.

"The experience showed that infant mortality was much lower in big cities than in small towns, even though all segments of the big cities, including slum areas, were tapped. This was largely due to the broad availability of pre-natal and hospital maternity care for all income groups in the big city, in contrast with a wide lack of such facilities in outlying regions."

* * *

Charles Mauriar (1832-1905) a noted syphilologist and genitourinary specialist, described Erythema nodosum syphiliticum, or Mauriar's disease.

A year after Bright described essential nephritis, *Biett's disease,* or *lupus erythematoides* migrans was named. Laurent Theodor Biett, born in 1731, was a pupil of Alibert of Paris, and of Willan and Bateman. The Collar of Biett is the name given to a manifestation of papular syphilis. Biett died in 1840.

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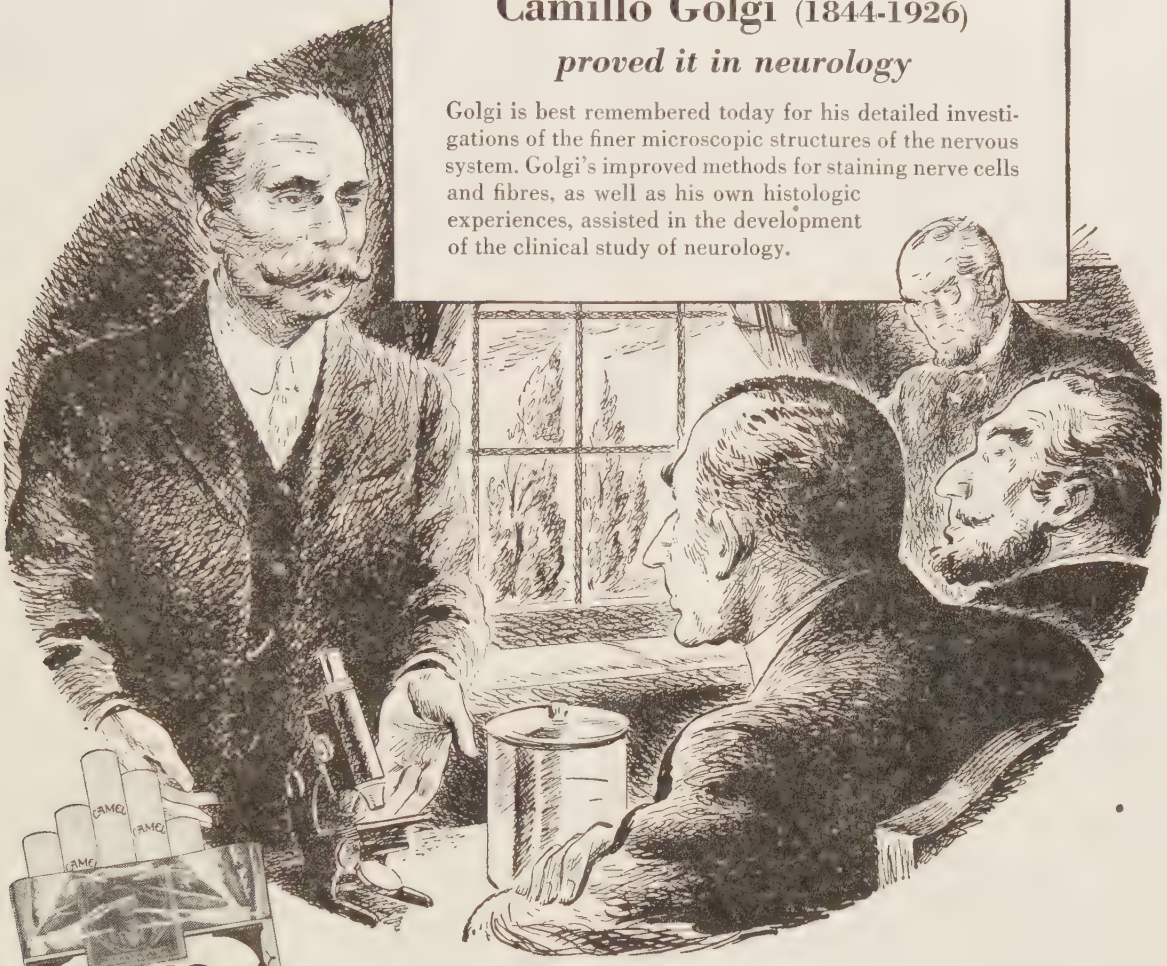
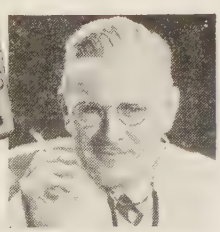
proved it in neurology

Golgi is best remembered today for his detailed investigations of the finer microscopic structures of the nervous system. Golgi's improved methods for staining nerve cells and fibres, as well as his own histologic experiences, assisted in the development of the clinical study of neurology.





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Yes! Let your own experience tell you why more people are smoking Camels than ever before.

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More Doctors Smoke CAMELS
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Three leading independent research organizations in a nationwide survey asked 113,597 doctors what cigarette they smoked. The brand named most was Camel!

Article Upholds Need for Further Penicillin Research Before It's Superiority to Nitrate of Silver is Acclaimed

The New York State Journal of Medicine asserted in a current editorial that penicillin has not yet been shown to be superior to nitrate of silver for use in the eyes of the newborn as a guard against infection and its use without further experience would be a "calamity."

This assertion was in answer to an article appearing in the April issue of The Woman's Home Companion, which claimed that babies are often rendered blind by the use of nitrate of silver as a prophylactic because the law in many states compels its employment by physicians. This disaster, according to the article, could be avoided by substituting penicillin for nitrate of silver.

"This is by no means proved," the Journal editorial comments," and it would in our belief, be a calamity if a tried and certain method were discarded without further experience with another which has by no means been shown to be superior. Perhaps there is a substitute which causes less reaction than silver nitrate, but we had better know more about that before the claim of infallibility is disseminated."

The Journal editorial points out that a special committee of the New York Academy of Medicine, named in response to a request from the New York City Commissioner of Health for an opinion as to the desirability of changing the Sanitary Code to accept penicillin as a substitute, did not recommend any change, although it did suggest that hospitals, under adequate control, be encouraged to make further studies.

"The Special Committee of the Academy considering the problem," the Journal states, "includes in its personnel an opthalmologist, a pediatrician and an obstetrician. Their opinion that the use of silver nitrate should be continued, pending the further study of the value of and practical considerations relating to the use of penicillin, preserves a tried and proved remedy in the use of which professional personnel have been trained over a long period of time.

"Mention must be made of the fact that ophthalmia in infants is not necessarily gonorrheal," the Journal comments. "There may be other organisms involved—streptococci, staphylococci, pneumococci, coliform organisms, and viruses. Many of these are strains resistant to penicillin. Proof of the effectiveness of the latter does not, up to the present, appear adequate.

"Moreover, the most effective concentrations and the best method of application have yet to be determined. Solutions must be fresh, and several instillations are required. In unskilled hands it may not be so simple as a single instillation of silver nitrate for prophylactic administration."

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Clinical studies completed at the Vanderbilt University School of Medicine and the Tennessee Department of Public Health, Nashville, illustrated the importance of folic acid, member of the Vitamin M group, as a weapon for attacking the frequently fatal "hot country" disease of Sprue.

A scientific paper, reporting on the "favorable influence" exerted by folic acid (pteroylglutamic acid) "on the primary gastro-intestinal disorder" in the disease, thereby permitting "correction of many secondary deficiencies," has been published in the current *Journal of Nutrition.*

Six adult patients with sprue, totalling seven remissions, were kept under observation at the Vanderbilt University Hospital. The sole specific therapeutic agent administered was synthetic pteroylglutamic acid in doses of either 5 mg. per day orally or 15 mg. per day intramuscularly.

It was brought out that inflammation of the tongue was relieved within three days to a week after institution of the therapy. In six of the seven remissions of the disease induced by pteroylglutamic acid, there was complete restoration to normal, while the other case showed "pronounced improvement." In all the cases cessation of diarrhea was observed within a period of three to nine days from the beginning of the therapy. Patients gained from six to 45 pounds, reflecting increased appetite and "the better absorptive capacity of the gastro-intestinal tract with the consequent conservation of calories and fluid."

In conclusion, the report states:

"Our observations may be interpreted as indicating that the primary defect in sprue is a deficiency state, manifested by glossitis, (sore tongue) macrocytic anemia, and pancytopenia and impaired gastro-intestinal function. This primary deficiency is corrected by pteroylglutamic acid. The simultaneous correction of several secondary deficiencies is also indicated . . . The numerous inter-relationships of pteroylglutamic acid with other vitamins and food factors are a most remarkable clinical example of the inter-relationship of foodstuffs in man."

* * *

Nil Feodowitch Filatov, the Russian pediatrician, who has often been acclaimed as the first to describe the spots of the mouth to which the name of Koplic has become attached, described the so-called Fourth Exanthem, known as *Filatov's disease*, and also as Duke's disease.

Achille Breda reported the demonstration of a bacillus in Frambesia Braziliana, or Boubas, in 1895, and the disease has become known as *Breda's disease.*

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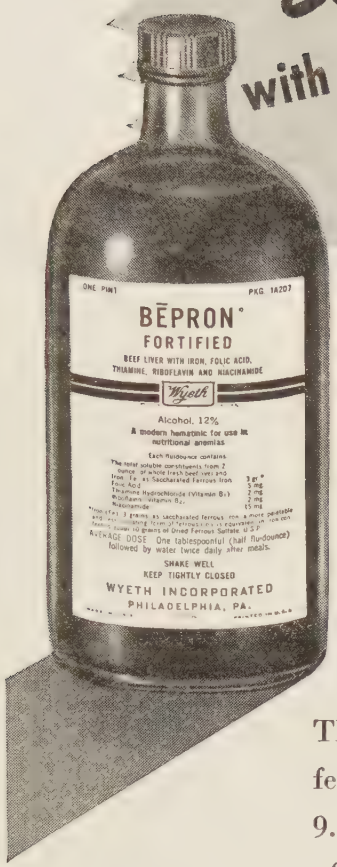

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Critique

Beliefs and conduct Miriam van Waters' *Parents on Probation* stated that beliefs do not condition conduct. Said she: "All sorts of people have trouble with children. Quakers, Jews, Catholics, Protestants, Christian Scientists, Freethinkers, Fundamentalists, scientists, psychiatrists, artists, and social workers have submitted themselves to certain disciplines which logically lead to certain attitudes towards human relationships, yet their children are often found miserably unhappy, insecure, and without guidance. Ironically we observe that labor leaders, emancipators, champions of free speech and liberty are as likely as not dominent, possessive, or tyranical parents. Methodists and Republicans, or other 'conservatives' may apply the doctrine of extreme self-determination in the rearing of their children." She mentioned a distinguished chemist who repudiated his son entirely when he committed an act which clashed with the accepted standards of the father's class and social station, and entirely failed to apply his concepts of natural law, cause and effect, and scientific method.

Tropical America: We seldom realize that much of our South is essentially tropical, at least a good part of the year. Some years ago Dr. Seale Harris of Birmingham said: "Ignorance and laziness are the chief reasons why the inhabitants of tropical America live largely on white flour, white meal, polished rice, dried fish, coarse tubers and white sugar products, because with a very little effort they could make their fertile lands produce a delicious and wholesome variety of foods." That diet has not yet been fully altered in its rightful direction.

New light on proteins Frank A. Csonka of the Department of Agriculture recently discovered that specific proteins are not immutably composed of specific amino acids in unvarying proportions. He fed hens exactly the same ration except for the quantity and kind of protein. One group got a high-protein ration from casein, the other the same from soybeans. The chicks hatched from their eggs all got the same standard chick ration, but those whose mothers had consumed casein gained weight faster than those whose mothers had eaten soybean meal. It developed that the composition of the eggs layed by the two groups of hens differed in their content of the sulfur-containing amino acids, cystine and methionine. This signal discovery that the composition of particular proteins is not immutable may soon help explain how varying growth rates are transmitted from hen to chick via the eggs.

Protein in starvation The origin of urinary nitrogen in starvation appears to reside in an unrestrained continuance of a mechanism which normally guards the tissues from an undesirable excess of amino acids in the pericellular fluid. In starvation, this leads to ultimate depletion of the circulating amino acids and their replacement from tissue reserves. They must in turn be replaced, even if this involves actual breakdown of the cytoplasm.

The utility of this mechanism can be understood only if we reflect that we are basically reproductive organisms, and that that is our primary function from the biological standpoint. Hence our individual maintenance is a secondary matter, so long as we do reproduce. Even our tissue proteins must be ready to supply energy in emergencies, and a reduction of deaminization to zero in starvation would lock them away too securely to be tapped. Possibly the thyroid has a hand in control of this process.

Osborne and Mendel's rats The rats of these famous investigators chose lactalbumin in lieu of zein, an incomplete protein, thus exhibiting far more intuitive knowledge of what was good for them than human beings could. They also took by choice a food containing more rather than less casein, in spite of sucrose substitution—and they like sugar. They preferred a food containing water-soluble milk vitamins as against one lacking these. They preferred a food containing a less valuable protein to equal growth results on a more valuable protein and an adequate protein food, in lieu of any protein-free diet. Whatever caused the choices they were reported to be unerring.

Stimulus and individual Wrote L. L. Thurstone in the *Nature of Intelligence* "The important thing is not the stimulus but the individual who is exposed thereto; for various reasons his threshold may be low or high and he may or may not react thereto—or may react with differing intensity. The thing to study, therefore, is human nature, not under special laboratory conditions and when it is normal—for when the human subject is especially disturbed he does not show up to be studied—but under ordinary everyday conditions.

"Look for the satisfactions that people seek through their conduct rather than judge them merely as responding to a more or less fortuitous environment. Consciousness is incomplete behavior. Social and antisocial conduct are really expressions of self-conflict.

"Today in educational psychology the jargon is all about establishing bonds between stimuli and desired behavior, whereas the normal impulses of children should be studied and the methods by which they may be induced to express these impulses in profitable ways. A stimulus that does not serve as a tool to the child's satisfaction is, for it, simply not a stimulus."

Sympathetic magic In *Science* for December 13, 1929, Knight Dunlap wrote that when man tried to control the course of nature, sympathetic magic arose. Medicine and anthropology were full of it. Cultures resembling other cultures were assumed to stand in direct causal relationship to one another; Freudians talked about repressed desires and complexes, fictitious entities constructed in analogy to the patient's symptoms.

In the transmission of acquired characteristics it is assumed that children will be intellectual if their parents are, and that if rats are taught via mazes, their offspring will be easier to teach, whereas the effect does not have to resemble the cause in quality and may be anything at all. It is just as probable that the skin color might change as a result of environmental changes on the parents. The adaptations of individual animals to their environment may or may not render such adaptation easier for their progeny.

E. A. Ross The following material is derived from Ross' *Social Control,* a great book all physicians could still read to their advantage—"For instance, the disappearance of the municipal houses of prostitution in Germany in the sixteenth century has often been credited to the moral awakening of Reformation times; but the latest historian of German morals lays it to the frightful ravages of syphilis. And the shameless public bathhouses vanished at about the same time, owing to the dearness of fuel!

"As active causes in the improvement of German public morality, he finds political, economic, dogmatic, esthetic, and intellectual forces, but never an ethical force. (Rudeck) In line with this is von Ihering's suggestion that both monogamy and the stability of the marriage tie are habits that became fixed among the Aryan peoples during their great migrations. The former is traced to the control of the food supply by the host, the latter to the reluctance of women to set out from home with wanderers without some guarantee of security.

"The first impulsive reactions of the public have almost nothing to do with social welfare. It does not like unselfish devotion nor does it detest brazen egotism. High on the crest of popular idolatry, the jockey, the bruiser, and the soubrette, share honors with the soldier, the patriot, and the philanthropist. The public is enraged at vivisection or grave-robbing. It is flaccid before bribery, breaking quarantine, the adulteration of drugs, or the plugging of armor plate. People react most against that which shocks their instincts—incest, for example, infanticide, or unnatural lust; but these offenses being contrary to deep-seated instincts are just those which are least liable to spread and threaten the life of society. Light shines first on the few, and the public is last to apprehend the real bearing and ultimate results of conduct. The handful of thoughtful men penalize forest-firing and the selling of explosive oil, and the killing of game out of season, while yet the senseless mob is gnashing its teeth at vaccinators and body-snatchers."

The criminal type Said E. A. Ross in *Social Control,* "The existence of a hereditarily criminal class shows that our social order imposes a peculiar moral strain. For the criminal is not ordinarily a monster devoid of social instincts. He goes in bands and is not incapable of a rude devotion to his fellows. He is not so much unsociable, as utterly incapable of responding to the particular stimuli by which we build the good citizen."

Tonsils: The other night an indifferent singer was advised on the radio by another to turn his tonsils in at the office and collect what was coming to him. In the *American Heart Journal* for December 1928, Wilson, Lingg and Croxford reported on 413 tonsillectomies which had no effect upon the recurrence of rheumatic infection, hence they concluded that the occurrence and recurrence of this infection were unrelated and that removal of tonsils should be discontinued. Neither could tonsillectomies prevent the occurrence of heart disease in children.

The International Medical Digest exactly one year later said editorially: "Judging from the statistics which have been gathered by these authorities, the impression is gained that tonsillectomy is not as valuable a procedure in the prevention of rheumatic infection and the prevention of heart disease as it has always been regarded. Future study, however, will have to be made before this belief will be widely accepted. In any event these revelations which severely jolt conventional belief invite attention to an interesting study which it is hoped will be taken up in various parts of the world."

Man from Monkey? Said Lange in his *History of Materialism*: "The 'descent from the ape,' which is most bitterly denied by those who are least raised by inner dignity of mind above the sensual basis of our existence, is of course in the strict sense not a consequence of Darwin's theory. This goes rather to indicate in the earlier history of man a common stock, from which on one side, tending upwards, man branched off, and on the other, persisting in the animal form, the ape. Thus the ancestors of man must be conceived as being indeed formed like the ape but already endowed with the disposition to a higher development, and something like this appears to have been Kant's idea."

The Critic

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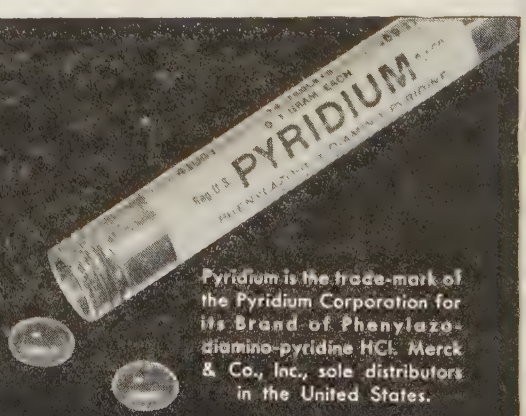

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SOME MODERN USES OF LUMINOUS ENERGY THERAPY

EDWARD C. TITUS, M. D.
New York, N. Y.

All the forces of the earth, all manifestations of life, are modulations and variations of the same heavenly melody which proceeds from the sun.

—Tyndall

We cannot live without luminous energy. It is the essence of life—the source of all power, which has the inherent force to destroy many forms of morbid or diseased tissues and at the same time build up and strengthen healthy cells.

The purpose of this discussion is to place an extra tool in the hands of the physician. The use of luminous energy for therapeutic purposes is not based on any personal theory, but on recognized physical law. There is nothing exclusive, nothing patented, in the use of luminous energy by the physician. It is the application of a natural means, and when employed by a pair of skilled hands, and directed by an intelligent head, is a potent benefit to humanity.

To many persons the subject of luminous energy therapy is wrapped in mystery and frequently its fundamental principles are imperfectly understood. It is not surprising, therefore, that progress in this field has been slow.

The beneficial influence of the sun's rays on animal and vegetable life has been recognized from time immemorial. It is only now, however, that we are beginning to appreciate its value in the treatment of disease in man. With increased knowledge of the subject, many physicians, dentists and hospital workers are making full and systematic use of this effective therapeutic agent.

Before dealing with the therapeutic aspects of luminous energy, however, let us consider briefly the theory thereof, and its therapeutic application.

Theory of Luminous Energy

Luminosity, like heat, is a form of radiant energy which may be defined as vibration of ether waves in space. These vibrations are composed of electrons traveling at a speed of 186,000 miles per second and vibrating at a rate of 500 trillion per second.

As the direct rays of the sun are not always available, other sources of luminous energy have been found advantageous for therapeutic purposes. Because of the progress made in the field of electricity, we have now at our disposal various means of obtaining luminous energy that approach the remedial value of the sun's rays. It is chiefly by their use that luminous energy therapy exercises its beneficial effects.

Luminous energy therapy may be considered, from one point of view, under two heads; first, its actinic effects, viz. the well-known results of a mild sun bath and those obtained from the carbon arc projector explained below; second, its thermic effects, as in the use of the incandescent bulb luminous projector apparatus and of the luminous energy cabinet bath, which will be discussed later. The two types of effect, actinic and thermic, are represented, of course, in varying degrees in all forms of luminous energy, irrespective of the source.

Local Application of Luminous Energy

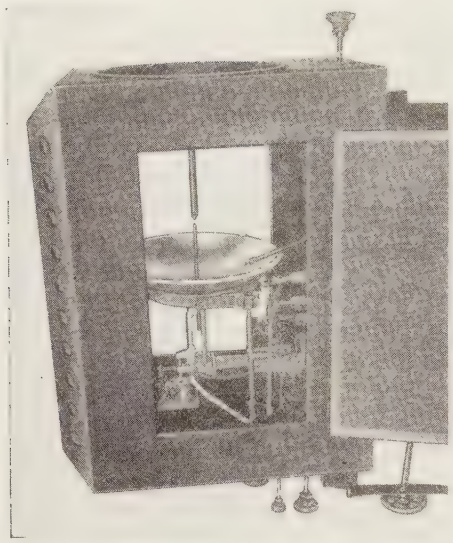
In the local application of luminous energy, as distinguished from its general application by means of the luminous energy cabinet bath, these are the principal means available for the physician's use:

1. *The Carbon Arc Projector:* This apparatus projects the rays in a parallel beam. The reflector is a twelve-inch, highly polished parabolic mirror with a four-inch focus, seven-eighths of the mirror being a parabola and the outer edge being a hyperbola. The carbon elements are maintained at a proper angle and in a definite relation to each other by several adjustments, and are controlled with the help of a double-acting watt motor.

(See Fig. 1)

A brief account of the origin and evolution of this valuable therapeutic equipment may be of interest. In the early nineties of the last century, Dr. Margaret Cleaves, who was connected with the New York Post-Graduate Medical School and Hospital, reported excellent results in treating several painful diseases with the parallel rays from a twelve-inch marine searchlight—the rays being applied at right angles to the bared surface of the part of the body

Fig. 1



under treatment. At that time the exact physics of the process had not been fully explained.

About 1908 W. J. Willenborg, a student of Professor Denton in the Department of Physics, Stevens Institute of Technology, discovered from a freak photograph that parallel rays from the sun, refracted at an angle of fifty-nine and a half degrees tangent to the earth's surface, made many opaque substances transparent to actinic rays.

These facts have been verified by subsequent observation. Based on these findings, a more efficient apparatus than the marine searchlight was developed. This is the carbon arc projector, described above, which is now in use by the writer and has proved more versatile and efficient as a therapeutic agent than the marine searchlight.

2. *The High Power Incandescent Luminous Projector:* This apparatus is an incandescent bulb with a 500 candle power tungsten filament and is provided with the proper dome reflector for directing the rays in parallel lines, as previously described. A carbon filament incandescent bulb uses twelve amperes at 110 volts, whereas the tungsten filament incandescent bulb uses only three amperes at the same voltage. The carbon filament gives off more thermic rays, while the tungsten filament produces a greater amount of luminous rays with a minimum amount of heat.

About 1916 a number of physicians induced a well-known graduate engineer of Cornell University to construct a smaller utility type of appliance of 200 to 300 watt output, which would project parallel luminous rays in a beam seven to nine inches in diameter. This simple but most efficient apparatus has become part of the equipment of the majority of hospitals and clinics throughout this country, as well as in many European cities. It is also an established household remedy.

Luminosity from these two types of apparatus should be distinguished carefully from the rays of an infra-red generator with a black carborundum element, which are mostly superficial in their effect. On the other hand the rays reflected by the parabolic mirror are not diffused, but are projected in parallel lines. From the well-recognized effects of these parallel rays upon the surface as well as the deeper structures of the human body, it is reasonable to assume that parallel rays will penetrate more deeply into the human body than diffused rays, the depth to which the tissues are penetrated depending on the proximity of the projector and on the duration of the treatment.

When luminous energy in parallel rays penetrates the tissues it is converted into heat, and this radiant heat increases chemical interchange which results in the generation of electrical currents that charge the individual cells of the body up to the point necessary for the maintenance of physiological function. In addition the hyperemia produced by luminous energy brings an extra supply of oxygen to the area. Thus heat from luminous energy has much to do with the speeding up of the processes of life.

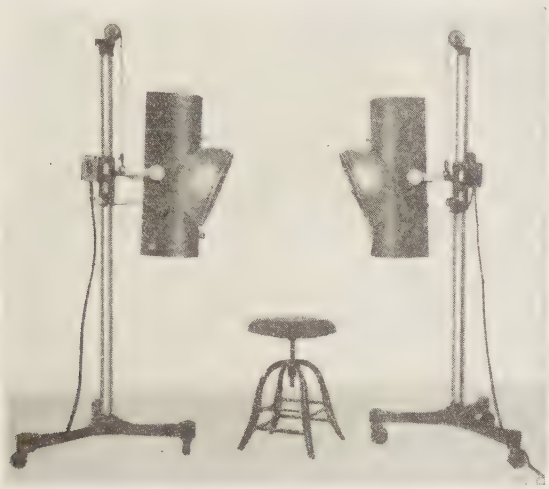
A wide experience with the application of these penetrating rays has proved their efficiency in relieving the symptoms of both superficial and deep-seated painful conditions, whether the rays are employed in combination with the temporary use of the usual medicinal preparations or, more often, as the sole remedy.

Relief from pain and local muscular or neural spasm, which is obtained readily by luminous energy, is due in great measure to reduction of congestion, tissue relaxation and lymphatic drainage.

The late Dr. Edward Dench of New York, while serving as attendant otologist at St. Luke's Hospital, used one of the first models of the utility type luminous energy projectors in the treatment of acute otitis media, and as an auxiliary for the induction of localized lymphorrhoea in the postoperative treatment of mastoid disease. Significantly, these decidedly beneficial effects are achieved without the least risk to the patient, which cannot be said for many other methods of treatment.

The actinic or chemical rays play an important part in luminous energy therapy, but only when the rays are concentrated on a local area, as in the use of the carbon arc projector, referred to above, or twin arc projectors. (The actinic rays seem to enhance and modify the action of the thermic and luminous rays.) Thus, the ultraviolet radiations, which are actinic, have been known to exert an antibacterial action, as well as to promote local phagocytosis.

The twin electric arc luminous energy generators,



utilizing plain carbons or proper-sized tungsten rod elements, project rays which are believed to be the nearest approach to those of the sun. Much valuable information has been presented in the past regarding the therapeutic efficiency of this agent in the treatment of both local and systemic maladies, so the writer will refer only briefly to those conditions where its dependability remains unchallenged. Its well-known helpfulness as a single or auxiliary agent in the treatment of various types of anemia, psoriasis and chronic eczema is fully established; however, an overdose of these rays may nullify the best results. As each patient is a law unto himself, due care in their use is important.

When the entire body is exposed for treatment, a slight pink reaction of the skin is preferable to the so-called sunburn degree. Tanning of the skin, either from the sun or by artificial means, is a defensive reaction. In many cutaneous diseases the best response from this remedy may be obtained if all existing foci of infection, either local or systemic, have been eliminated previously.

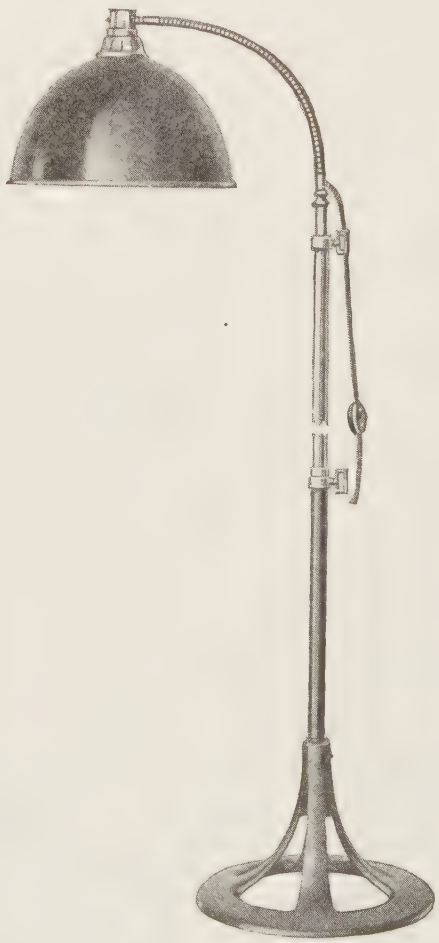
Dr. W. J. Turrel, in charge of this work at the Radcliffe Royal Infirmary, Oxford, England, favored the application of radiations from the tungsten arc in the treatment of sluggish, ulcerating or open cutaneous lesions. Further information on this subject may be found in recent editions of the *Year Book of Physical Medicine,* edited by Dr. Richard Kovacs.

When a mercury vapor is employed, the ultraviolet radiations therefrom have commonly shown the best results if its use is confined to the treatment of local lesions, yet it has a place as a remedial agent in the treatment of various systemic maladies. Several worth-while articles on the use of ultraviolet radiation as a therapeutic procedure have been contributed by Dr. Norman E. Titus, Colonel, M. C., U. S. Army. (1) The long wave length of the infrared rays and the short wave length of the ultraviolet rays are not as penetrating and effective as the luminous energy radiations from the central portion of the spectrum.

Practical Application of Luminous Energy

The rays of the carbon arc projector or the high power incandescent luminous projector should be applied to the bared surface of the skin, and the rays should fall at *right angles* to the part of the body being treated. The carbon arc luminous projector should be from ten to fifteen feet distant from the area to be treated and applied for thirty minutes. The twin carbon luminous projector should be at a distance of thirty to forty inches from the patient, and the duration of exposure from five to fifteen minutes.

The carbon filament incandescent bulb projector should be from eighteen to forty-eight inches distant, depending on the effect desired, whether stimulating or sedative. The short distance is vigorously stimulating, the longer distance sedative, and the



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range of duration from fifteen to sixty minutes for the relief of symptoms due to both superficial and deep vascular spasm.

The length of time of application varies, if not specified, from thirty to sixty minutes for local applications. For relief from pain due to congestion, e. g. coronary spasm, local application should be continued until a pronounced redness is induced in the skin. The frequency of treatment is determined by the response of the patient, and the judgment of the attending physician. It should always be borne in mind in treating disease conditions that the body as a whole must be considered.

It is not the disease *per se* but a diseased body which we endeavor to treat; therefore the utmost judgment should be used at all times in determining the treatment required in each case.

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The effects of the local application of luminous energy are, in general, twofold: first, increased local activity, manifested by a pronounced hyperemia and an augmented tissue oxidation and elimination of toxic products; second, activity in distant organs and nerve centers as a result of peripheral or cutaneous stimulation, for the effects of luminous energy are not confined to the site of local application, but are so diffused that remedial results are achieved in remote parts of the body. Likewise, as has been shown by physiological investigators, the production of heat in the tissues increases phagocytosis and thus enhances resistance to infection.

Clinical Aspects of Luminous Energy

Satisfactory results have been obtained by the use of luminous energy in the treatment of the following disease conditions. These findings are based largely on the writer's personal experience.

Spinal Lesions: In certain spinal lesions, which include chorea major, anterior poliomyelitis, multiple sclerosis, and subacute combined degeneration of the spinal cord, the use of the parallel rays from an open arc projector, applied for thirty minutes to the spine, at a distance of ten feet, is one of the most effective preliminary adjuvants, when combined with the customary medicinal and physical remedies, for relieving both systemic and peripheral symptoms. The applications should be repeated at suitable intervals.

Bronchitis: In the acute stages of bronchitis, or in pulmonary congestion from various causes, the application to the front and back of the chest, at a suitable distance, of rays either from the open arc or the high power incandescent bulb luminous projector, relieves more readily the coughing and respiratory distress than many medicinal remedies in common use. The duration of treatment is thirty to forty-five minutes, *pro re nata.*

Pneumonia (Lobar or Bronchial): The salutary effects obtained by the application of luminous energy are manifested by marked relief from pain and dyspnoea, and an improvement in the general comfort of patients of all ages. It hastens the reparative process in conditions where resolution is delayed.

Capillary Bronchitis: In the bronchial pneumonia of children this simple suggestion is in order: Place the child, stripped to the waist, face downward, on a hair pillow previously covered with a soft towel. The pillow should be placed at an angle which will bring the child's head slightly lower than its feet—an angle sufficient to promote drainage from the mouth—one side of the face being on the lower end of the pillow. Rays from the utility type incandescent luminous projector, previously described, should be applied to the child's back, over the lung area, at a distance of four feet. The treatment should be applied for fifteen to thirty minutes every three to four hours.

Infection of Gallbladder and Congestion of Abdominal Viscera: In inflammation of the gallbladder, both acute and subacute, and congestion of the liver and other abdominal viscera from chronic malaria, alcoholism and persistent intestinal autointoxication, the writer has frequently used either the carbon arc luminous projector or rays from a 500 watt tungsten luminous projector, and considers it no exaggeration to say that his results have been far better than when sole reliance was placed on the customary medicinal remedies.

Muscular Pains: Muscular pains and even the intense distress associated with herpes zoster will be relieved by the local use of luminous energy. The relief will be more rapid and lasting, due to the diminished congestion and nerve sensibility, than by recourse to the use of various analgesics, and with no risk of undesirable after-effects.

Middle Ear Catarrh, Coryza, and Allied Conditions: Acute middle ear catarrh (common earache), coryza, frontal or orbital headache accompanying so-called acute colds, and especially involvement of the

paranasal sinuses, all are relieved materially and promptly by a thorough and prolonged application of the rays from the utility type of carbon filament incandescent luminous energy projector, previously described. The application should be repeated as indicated.

A single experience in the use of this remedy in relieving otitis media will often convince the most skeptical person of its value. The writer has observed that mastoiditis is frequently averted. The duration of application and the distance from the part treated should be determined by the severity of the symptoms and by the best judgment of the physician or competent attendant.

Sinusitis: For flare-ups of chronic conditions, and after operation on nasal sinuses, maxillary antrum or the mastoid area, the rays from the carbon filament incandescent luminous generator have a definite therapeutic value. The treatment will not induce hemorrhages but will frequently bring about a helpful lymphorroea—a reaction much to be desired.

Anterior Poliomyelitis: In cases of anterior poliomyelitis, when the muscles of respiration are showing signs of dysfunction, the continuous application of luminous rays from the utility type carbon filament apparatus to the spinal area from the base of the skull to the buttocks, by inducing an active physiological hyperemia, offers a most potent remedy in these desperate conditions. In the post-paralytic stage, a similar application to the entire spinal area of the luminous rays, as described above, should precede any or all forms of physical remedies.

Gynecological Uses: In various types of septic conditions, such as phlebitis, following childbirth or intrapelvic operations, the late Herman Grad, during his service at the Woman's Hospital, New York, employed the high power carbon or tungsten filament luminous generator as an important part of the treatment of these conditions.

Spasmodic Dysmenorrhea, Uterine Colic, Gallbladder and Renal Colic: The use of parallel rays from either type of luminous energy projector is a valuable auxiliary in the treatment of these painful conditions, either as a sole remedy or in combination with medical or surgical procedures.

After Dental Extraction: Application of the rays from a utility type carbon filament projector is most salutary in relieving discomfort after dental extraction; also after the incision of a carbuncle or exaggerated type of furuncles.

Nasal Surgery and Tonsillectomy: Pain which frequently follows these procedures will be relieved materially by the local application of luminous energy from a utility type projector at a distance of four feet from the face.

Bone Tuberculosis and Osteomyelitis: The application of luminous energy rays after incision, as part of the treatment, will prove a definite advantage.

Local Infections: In local infections of the extremities, cellulitis, furuncles, varicose ulcers and localized infective processes in general, short exposures, from one to three minutes, of rays from the open carbon or tungsten rod arc at a distance of six inches from the part to be treated, will add much to the comfort of the patient as well as increase the reparative processes. The customary topical applications are, of course, not interdicted.

Delayed Union of Fractures, Contusions, Bruises, Sprains: The prior use of luminous energy will increase the efficiency of the indicated remedies usually employed.

Deleterious Effects of Roentgen Rays: It has long been known that luminous energy, whether from the carbon filament, the incandescent luminous energy projector or the open carbon arc luminous generator, is the antithesis to local overactivity of Roentgen rays.

So-Called Senile Heart and Common Types of Myocardial Ischaemia, Myofibrosis, etc.: In the treatment of so-termed senile heart, precordial distress, irregular heart action, both true and pseudo angina pectoris, mental shock and faintness, the application of luminous energy over the front of the naked chest, at a distance of four feet, for half an hour to one hour several times daily, will relieve many of the symptoms presented by these chronic conditions, *provided the foci of infection and other systemic causes are eliminated.* In the management of the condition commonly termed senile heart, experience has demonstrated that applications of the parallel rays from a utility type luminous energy projector to the precordial area of the chest, at a distance of four feet from the surface, for thirty minutes several times a day, will prove a most pleasant and efficient adjunct to the customary medicinal remedies.

Cardiac Ischaemia: When there has been no coronary thrombosis, it is often possible to avoid or delay the onset of cardiac ischaemia by proper management and the use of luminous energy as set down in the preceding paragraph. In most instances, the relief is prompt and lasting, and the use of luminous energy in this condition has become a recognized procedure.

Coronary Thrombosis: The writer has administered to these patients one to two ounces of good brandy and one half-grain tablet of codeine sulphate placed under the tongue, hourly or *pro re nata,* together with a continuous application of the parallel rays from a utility type of a carbon filament luminous energy projector over the precordial area, with more satisfaction than from usual procedures.

Traumatic Shock (Surgical Shock): By the use of rays from the utility carbon filament luminous energy projector, applied at a distance of only eighteen inches over the area of the solar plexus or over the face, consciousness is restored more rapidly than by any of the customary methods.

Cerebrospinal Syphilis: If the luminous rays are allowed to play over the face at a comfortable distance for one-half to three-quarters of an hour before the customary intravenous medication is employed, the effects of the medicinal remedy are enhanced materially.

Intravenous Medication: Local pain and distress, which sometimes follow such medication, can be relieved promptly by the rays from a utility type carbon filament incandescent luminous energy projector.

Encephalitis Lethargica (Sleepy Sickness): The application to the face, at right angles, at a distance of four feet, of rays from a utility type carbon filament luminous energy projector, for prolonged periods, as much as one hundred hours, by maintaining a mild degree of physiological hyperemia of the brain, has proved of inestimable benefit in these cases. After the acute symptoms have abated, by the use of cerebral galvanism, according to the method first described and employed by Drs. Beard and Rockwell, the latent symptoms are cleared up amazingly. The writer has hesitated to make these bold statements, but the issue in several such cases justifies them. The well-known fibrolytic action of the galvanic current from a battery source only, may explain the therapeutic value of this potent adjunct.

Having considered many instances in which the local application of luminous rays is efficacious, let us turn to the second aspect of the subject.

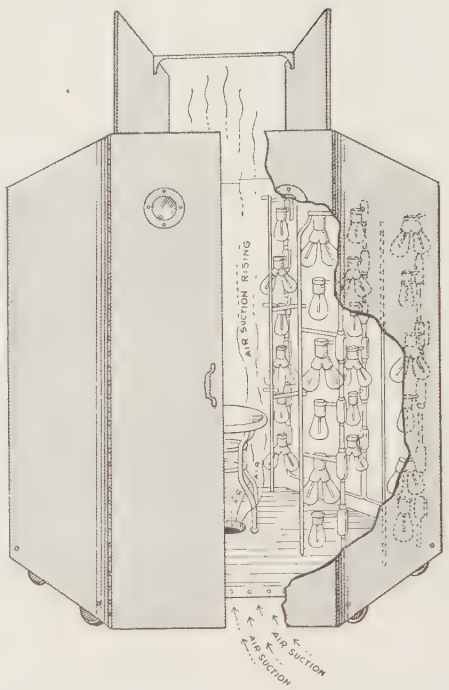
Ankylosing Spondylitis: The writer has demonstrated the efficiency of the parallel rays from an open arc luminous energy projector at a distance of 12 feet from a naked spinal area; or of the incandescent bulb luminous energy projector (hospital size) at a distance of four feet from the patient for 30 minutes. Both of these methods are to be followed by the Morton static wave current, by means of a metal electrode three inches wide and 12 to 15 inches long, for a period of 20 minutes and this, in turn, is to be followed by static electrical sparks 3 to 6 inches long applied over the involved areas of the spine.

These two methods have shown salutary results most gratifying, provided of course all foci of infection have been previously irradicated. These procedures may be repeated *pro re nata.* More satisfactory results may be obtained by the additional judicious application of a properly prepared and intelligently administered autogenus vaccine. The dosage must be adjusted according to the patient's response and not from a printed schedule.

General Application of Luminous Energy

This is to be distinguished carefully from the application employed in the use of the parallel rays and directed to a particular part of the body. It is administered by a luminous energy cabinet bath, furnished with 72, 50-watt long tungsten filament incandescent bulbs in eight vertical rows of nine each. (See illustration.)

Four snap switches within the cabinet are controlled by the occupant. Since much of the benefit



to be derived from this agent depends on the apparatus employed, a description of what has proved to be the most satisfactory type of cabinet bath will be given.

Luminous Energy Cabinet Bath

We are indebted to the late Dr. John Harvey Kellogg for its first model; however, modern construction has greatly improved both the design and the efficiency of this very valuable therapeutic equipment.

A luminous energy cabinet bath should be constructed according to the following specifications:

1. The cabinet should be octagonal in shape within an area of four feet square; five feet six inches in height, and with a *dull white* inside surface.

2. The cabinet should be partly open at the top. Also, it should have an air vent four inches in diameter in the center of the floor, being raised six inches from the base. Over this vent in the floor is placed a stool, eighteen inches high, on which the occupant is to be seated. The entrance to the cabinet bath is closed by two vertical half-doors hung on piano hinges; there are no locks nor fasteners on the doors.

The advantages of this type of cabinet are clear. Just as a ventilated room can be heated more quickly and evenly than a room that is closed and sealed, so the same principle of allowing ventilation through the cabinet, from floor to top, increases the effectiveness of the luminous energy. Moreover, this type of cabinet makes possible a large volume of luminous energy with a minimum amount of heat.

Of great importance, also, is the fact that by this method of ventilating the cabinet, noxious gases and odors from the human body are carried off quickly and do not re-enter the body, as frequently happens

when the unventilated type of cabinet is used. The occupant does not run the risk of becoming faint and exhausted, as is often the case in a closed cabinet. On the contrary, the occupant feels exhilarated when the bath is completed.

Effects of Luminous Energy Cabinet Bath

The general effects of the luminous energy cabinet bath are: (1), hyperemia of the skin; (2), profuse diaphoresis; (3), increase in both the fluids and the urinary solids; (4), augmented exhalation of carbon dioxide.

Other beneficial effects of the luminous energy cabinet bath are:

Arteriosclerosis: It is generally accepted that toxemia plays an important part in the cause of this condition; therefore, the benefits to be derived from the cabinet bath are manifold.

Rheumatic and Gouty Affections: It has been pointed out frequently that many conditions often termed rheumatic differ essentially from the acute type of the disease, which is most commonly of bacterial origin. On the other hand, there is reason to believe that the chronic forms, which have been grouped under the names of rheumatoid arthritis, rheumatic gout and osteoarthritis, are influenced largely by autointoxication and other disturbances of metabolism.

The marked effects of luminous energy cabinet baths in increasing elimination exert a beneficial influence on the toxemia in these cases, and therefore are a material aid to conventional treatment. The distressing pain and stiffness in the joints are also relieved markedly.

In chronic gout, which is more frequent in this country than is usually supposed, the action of luminous energy cabinet baths, by augmenting the cutaneous and peripheral circulation, helps the absorption of so-called uratic or chalky deposits. The lasting effects of the treatment are most satisfactory.

Chronic Interstitial Nephritis: In these cases, one of the chief aims of treatment is to lessen the work of the kidneys. *The luminous energy cabinet bath is a better auxiliary measure for this purpose than is a hot pack or steam bath;* for notwithstanding the profuse sweating induced by this type of bath, the patient experiences no depression, but feels, instead, the beneficial effects of the luminous energy on the peripheral nerves.

Diabetes: The luminous energy cabinet baths are not adapted to every case of this disease. Patients who can be helped are those who present a dry skin with various cutaneous eruptions, especially of an eczematous character. The best results are obtained in conditions associated with exaggerated arterial tension.

Obesity: The heat penetration of a luminous energy cabinet bath, extending as it does to a depth of several inches, increases the processes of oxidation in the fatty tissues and promotes their disintegration, thus reducing the obese condition. This does not exclude the employment of special exercises, diet, etc.

Acute Catarrhal Affections of the Respiratory Tract: The writer has often observed the beneficial effects of a luminous energy cabinet bath given at the beginning of a so-called cold; the bath either has aborted or greatly modified the course of the symptoms. The writer's personal experience is that the luminous energy cabinet bath is unquestionably superior, in these instances, to the customary hot water tub-bath and other perspiration-inducing methods.

This type of luminous energy cabinet bath is not only an efficient therapeutic agent, but is also a valuable household installation. From extensive experience, the writer can assert that the regular use of the cabinet bath, as described, for fifteen minutes two or three times a week, has retarded materially the usual physiological decline of advancing years.

It must be emphasized that to obtain the fullest efficiency of this remedial agent all possible foci of infection should be eliminated and substances causing chronic tobacco poisoning strictly interdicted. The following is a tabulation of possible sources or causes (foci) of systemic diseases: (2)

A. *Respiratory Tract:*
   1. Oral cavity: Peridontal: chronic and acute gingivitis. Dental: apical infection; dental caries; residual areas. Oral: nasopharyngitis; pharyngitis; laryngitis; peritonsillar infections; stomatitis; glossitis; 2. Nasal cavities: Nares; turbinates; sinuses; postnasal, maxillary, frontal; 3. Auditory apparatus; and 4. Lower respiratory tract: Tuberculosis and other infections of the lungs and pleura, including chronic bronchitis, bronchiectasis, pulmonary carcinoma, and pharyngobronchitis or smoker's cough; and subphrenic abscess.

B. *Gastro-Intestinal Tract:*
   1. stomach: gastritis, achlorhydria, and ulcer; 2. duodenum; duodenitis, ulcer; 3. biliary tract: hepatic dysfunction, hepatitis; cholecystitis, cholangitis, etc.; 4. pancreas; 5. small intestine: ileitis, regional ileitis, and not infrequently, diverticulitis; and 6. colon: "colitis"; diverticulitis; "intestinal intoxication"; parasites; proctitis; appendicitis.

C. *Genito-Urinary Tract:*
   1. Kidneys; ureters; 2, bladder; 3. uterus, cervix, ovary; 4, prostate, seminal vesicles, scrotum; 5, urethra and balanitis.

D. *Skeletal System:*
   1. Muscle and bone: joints—articular, periarticular; "rheumatism," bursitis, myositis, etc.; cold abscesses of psoas muscles; extremities; 2. skin: various dermatoses; umbilicus.

E. *Endocrine Glands:* Pituitary; thyroid; adrenal; gonads; others.

The writer feels that, as Myer Solis-Cohen has emphasized so strongly, eradication of a focus of infection does not necessarily remove the infection, but only the major source of the infection. Occasionally, the focus of infection plays such a considerable role in the etiology of the disease associated

with it that eliminating the focus results in temporary, or even permanent elimination of the systemic symptoms.

In most cases, however, it is necessary to reduce further the toxic load on the body and to increase immunity by stimulating the production of sufficient antibodies to prevent the recurrence of the infection.

In view of this understanding, it is reasonable to add the following statements:

The elimination of the infection is a rational method of treatment of chronic diseases. Immunization to the specific organism by means of specially prepared antigens is effective provided (1) that the toxic load is reduced by adequate treatment of foci of infection, (2) that endocrine deficiency is corrected, (3) that dietary errors are eliminated, and (4) that other appropriate measures are taken to restore normal body function.

In the use of antigen therapy it is important to include in the vaccine only highly toxic bacteria that are responsible for the basic infection. Discussion of the methods used would be too lengthy and too technical for this paper, but briefly stated, they consist of selected isolation of staphylococci, streptococci and coliforms, selecting a number of colonies and testing their toxigenicity. The toxigenic bacteria are harvested in the logarithmic phase, in which they are most toxic, and treated so as to preserve the antigenic structure.

Since the antigen is highly specific, it must be given in extremely small doses and far less frequently than usual. Instead of being given according to a printed schedule, which is disastrous, the dosage must be adjusted each time according to the patient's response to the injection.

A dose that produces no effect is too small and must be increased a week later. A dose that produces a good effect is about right and should be increased cautiously until the beneficial effect lasts about two weeks or longer. A dose that produces an unfavorable effect is too large and should be reduced after the ill effects have subsided completely. The simplest way to determine progress of treatment is by urine toxin titration, which can be done inexpensively in a few seconds. (Chapman)

The claim of Sir Almroth Wright that infection is responsible for almost all chronic illness, which idea is closely associated with the focal infection hypothesis advocated particularly by Billings, Rosenow and their associates, and Solis-Cohen, has received substantiation from the laboratory work of Chapman in association with the clinical investigations of Drs. Berens, Eaton, Fiske, Griffiths, Rawls, Ressa, Stiles, Sturtevant, Tilney, Titus and others.

Conclusion

If, in this brief review of the subject of luminous energy and cognate matters, the writer has been able to present suggestions concerning the use of dependable remedial agents which will be helpful to other physicians, he will feel that his modest effort has not been in vain.

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SOME NEWER DEVELOPMENTS IN CANCER RESEARCH

A Review of the Literature

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The most significant cancer researches in the last five years are: the production of malignancy in vitro; the production of carcinoma in animals from their own intrinsic chemical factors; the hormonal control of some cancers; the heterotransplantation work of Greene; the modification of viruses by passage in young and alien hosts; additional discoveries on the milk factor and the studies on the effects of light.

It has been conclusively shown, according to Morton (1), that substances which have carcinogenic properties can be extracted from various tissues of humans who have died of cancer. Additional evidence has been obtained by extracts from the livers of cancerous and to a less extent from non-cancerous subjects. Extracts from gallbladder bile and from the lungs were also successful, as well as extracts from human mammary cancer. Sarcomas were usually induced at the site of injection in mice.

The excretion of steroid substances in the urines of cancerous and non-cancerous subjects has been investigated. This is an exceedingly difficult technical project and will require more time before conclusions can be drawn.

Dobriner *et al* have constructed patterns to show the difference in the excretion of a number of the substances. The normal urine showed a constant ratio whereas patients with cancer and adrenal hyperplasia gave both quantitative and qualitative differences. Cancer patients excrete smaller quantities of Ketosteroids than do normal patients. This has been confirmed by Pearlman. In patients with breast cancer the total urinary estrogens and androgens and 17 Ketosteroids were not significantly different from the normal.

Since the days of Pasteur and Koch, the history of medicine has been replete with brilliant researches each of which has revealed a single external invasive parasite (bacterium, protozoon, or virus) as the cause of numerous human maladies. Naturally, these achievements in the field of communicable diseases influenced the search for a single cause of cancer. None of the numerous parasites described as the etiologic agent has so far stood the test of time.

In a recent paper on "Cancer as an Autoparasite", Spencer (2) states that it may now be safely said that the experimental and clinical literature on cancer reveals no verified observations at variance with the following concepts regarding the genesis of cancer:

1. The inciting causes of cancer are multiple and complex.
2. Cancer cells are derived from normal cells.
3. The carcinogenic process results in a disorganization of organized cell groups.
4. Cancer reveals itself as a special type of cell behavior peculiar to multicellular organisms.
5. This behavior pattern is the result of a process of adaptation to certain environments in which the cells become parasitic upon and ultimately fatal to the mother organism.

In fact, Spencer further contends, investigators have discovered in the induction of cancer a great variety of genetic and environmental influences both internal and external. It is generally agreed that cancer cells are derived from normal cells; and new evidence is continually being found which indicates that *no single specific* agent or condition or *no single* combination of agents or conditions is responsible for the initiation of the cancer process.

If by definition, cancers can occur only in organized cell groups, it is obviously impossible for a single cell or a single-celled species to be called a cancer cell no matter how extensive the intracellular change may be.

Cancer as such is, of course, not hereditary. It is the predispodition to the development of the disease that has been shown to have a genetic background.

Reimann (3) believes that the practical difference between cancer cells and normal cells is loss of the ability to organize of the former and their inability to differentiate normally. These two characteristics may be called "practical" because they are the basis of diagnostic procedures. Since they are transmitted from cell to cell, they have been said to constitute a new race of cells, or that "somatic mutation" has occurred in a normal cell. This brings up the concept of "somatic mutation" as it occurs in all biology.

The major enigma is to differentiate changes in the cytoplasm and the nucleus and assess the relative proportions of each. There is abundant evidence that chromosomal or genic changes occur in somatic cells. However, quite recent work has shown that self-reproducing bodies in the cytoplasm also may change or mutate and, what is essentially significant, under the control of the nucleus.

Hadden stresses Sonneborn's work in protozoa and studies of the mutations of plastids in plants. As an example from plant physiology, we mention that self-reproducing bodies in the cytoplasm depend on the nature of the nucleus; in the so-called Japonica mutant of maize, the white stripes in the leaves are due to a mutation of the plastid which is conditioned by a particular recessive gene in the nucleus. The maize plastid loses one of its capacities to differentiate—in this case to make chlorophyl.

We may say, therefore, in the case of transformation of a normal to a cancer cell that the concept "somatic mutation" is legitimate, reserving for the future the determination of the relative importance of the nuclear and cytoplasmic constituents in this transformation.

In any case it is clear that cytoplasmic mutation is important in cancer for viruses grow in the cytoplasm of preferred cells, the descendants of which are altered.

In the last twenty or thirty years much has been learned about carcinogenesis. All investigators, emphasizes Spencer (2), have been impressed with the multiplicity and complexity of the factors that play a part in initiating the process.

Cancer may now be induced at will experimentally by:

1. Genetic manipulations in breeding and crossbreeding.
2. Hormonal imbalance and disturbances.
3. Injection or feeding of more than two hundred different chemicals, some of which are organ specific.
4. The energy agents (x-rays, gamma rays, ultraviolet rays, heat, etc.)
5. A combination of one or more of the foregoing factors.

Besides the multiplicity and complexity of inciting causes, another impressive fact about the "causal genesis" of cancer, and one which seemingly sets it apart from the communicable diseases, is the observation that, once the process has been started, the inciting agents and conditions are no longer necessary to a continuation of the process.

No communicable disease can claim so many species as victims. And yet every spontaneous cancer is host specific.

Cancer is not as readily communicable in nature from one animal to another. Nor is it readily transplantable artificially unless it arises in and is transplanted to the same inbred strain of animals.

Pathologists employing the latest technics have

not been able to demonstrate a nerve supply to mammalian tumors. The absence of innervation suggests that cancer cells are not under the control of either the central or the autonomic nervous system.

The pathologist, H. S. N. Greene, has attempted to pidgeonhole cancer on the basis of the behavior of cells when transferred to the anterior chamber of the eye of a foreign species. According to Greene, cells that do not proliferate in such medium are not cancerous. Only cancer cells, he claims, can "transcend species specificity." Yet leukemia cells do not survive in such medium and so, by this criterion, are not neoplastic cells.

Furthermore, in Greene's experiments a rat tumor (R 2426) failed to show heterologous transplantation, but according to Dunning, in whose laboratory this tumor arose, it metastasized readily to the lungs and killed the rats in which transplants grew progressively.

A cancer may not be, as commonly explained, a mass of the patient's own cells gone wild and growing anarchically. The diseased cells, although originally flesh of his flesh, may have become strangers to the body in which they dwell through mutations.

This lack of real genetic kinship between the patient's normal body-cells and the cells of his cancer may account, among other things, for the refusal of the cancer to obey the commands of the growth-regulating chemicals, or hormones, that keep the normal parts of the body properly disciplined.

Striking new evidence bearing on this theory was presented before the meeting of the National Academy of Sciences in Washington by Dr. M. Demerec (4), head of the genetics department of the Carnegie Institute of Washington.

Dr. Demerec has succeeded in producing mutations in fruitflies, classic experimental material of geneticists, by exposing parent insects to atmospheres in which continuous aerosol mists of cancer causing chemical solutions were maintained. He had his first success with a war gas that never saw action, one of the nitrogen mustards. When he found that this would produce both mutations and chromosomal rearrangements, he tried other cancer-causing chemicals, and found that he could produce mutations with four of them: dibenzanthracene, methylcholanthrene, benzpyrene beta-naphthylamine.

The doctor tried 19 other chemicals that do not cause cancer in laboratory mice, and none of them produced mutations in his fruitflies. He regards the fact that mutations arise in response to treatment with cancer-causing chemicals, and to them only, as highly significant in its bearing on the mutation theory of cancer origin.

The evidence is accumulating (5) that methylcholanthrene or one of its metabolites has a profound effect upon many biological phenomena. Its original use in the induction of tumors in experimental animals has been one of the milestones in cancer research. Why cancer arises after introduction of this chemical, or any one of the other carcinogens, is unknown.

The present collateral data on the induction of germinal mutations by the same agent are highly suggestive that perhaps the primary effect of methylcholanthrene, or one of its metabolites, is upon the nuclear components of the cell.

If this is so, then we are influencing by chemical means the part of the cell which is both the dynamic center of cellular physiology and also the part involved in the transmission of individual characteristics through heredity or cell division.

It has been repeatedly demonstrated (2) that diet can influence the rate at which hepatic tumors develop in rats and mice following the administration of azo dyes. Some dietary factors retard, others accelerate, tumor formation. On the other hand, tumors of most other organs, whether spontaneous or induced by agents such as the carcinogenic hydrocarbons or ultraviolet light, are not nearly so sensitive to diet as are liver tumors due to azo dyes.

There is abundant evidence that diets high in fat tend to increase the rate of formation of certain types of induced tumors, but that not all types of tumors are sensitive to dietary fat.

Tannebaum obtained statistics from life insurance companies which indicated that there was a greater proportion of deaths from cancer among people who were overweight at the time of the insurance of a policy than among persons who were of average weight or underweight.

Caloric restriction has been found to reduce the incidence in animals of many different kinds of tumors including leukemia, and Tannebaum believes that a low-caloric diet and the avoidance of overweight may aid in the prevention of many types of cancer in man.

Azo dyes induce the cancer process in the liver, rarely in other parts of the body. It is interesting to note that certain other carcinogenic chemicals seem to be highly organ specific.

Hueper *et al.* have shown that the aromatic amine (betanapthylamine) after long subcutaneous and oral administration in relatively large doses produced tumors in the dependent parts of dogs' urinary bladder. Rabbits treated in similar manner did not develop bladder tumors. Hueper had previously reported bladder cancers in certain dye workers.

Huggins demonstrated that by anti-androgenic therapy of cancer of the prostate in men, a chemical change in the internal environment of the host brought about a long continued regression of the malignant process. In 18 of 20 patients with disseminated prostatic cancer treated by orchiectomy, remissions of growth occurred. After five years, four patients were free of clinical and laboratory evidence of cancer.

Wooley and Little found that when one- to three-day-old mice of their Ce strain were castrated, all developed cancers of the adrenal cortex after thirteen months of age. In other mice (C3H and dba), only nodular hyperplasia was found in the adrenal cortex after the same early castration.

In comparing the work of Huggins with that of Little and Wooley, it may be seen that the same operation that produces tumors in certain tissues at certain stages in development and in certain species may, on the other hand, tend to inhibit the carcinogenic process in other tissues of other species at a

later stage of the individual's development.

Several interesting papers have recently been published in the *American Review of Soviet Medicine,* dealing with the progress in cancer research in the Soviet Union. They deal primarily with methods of determining the genesis of cancer cells by tissue cultivation in the laboratory, filtrable virus, diagnosis through study of body secretions, and the transplantability of cancer of the liver.

Since 1929 Drs. Roskin and Klyueva have been investigating the South American trypanosome, *Schizotrypanum cruzi,* which causes chazas' disease, to find its effects on transplanted cancer in animals and on cancer in man.

They reported that the schizotrypanosome endotoxin, KR, has a selective cancerolytic action, innocuous to healthy tissues. Injected subcutaneously, KR destroys cancers of the breast, larynx, uterus and lip in man.

The anticancer elements of the *Schizotrypanum* are in the body of the parasite, not in the surrounding media, are soluble in water, filtrable through Berkefeld candle L3, stable in alcohol and acid, and connected with a specific fraction of the trypansome's protoplasm.

The blood of cancer patients and of animals with inoculated tumors, according to Russian investigators, contains cytotoxic factors which may be demonstrated biologically by the effect of sera on paramecia. Toxic effects in man depend on two elements: a specific factor and a complement which is either in the patient's blood or can be supplied by fresh guinea-pig serum.

Blood was taken from the hearts of five virgin mice inoculated with adenocarcinoma of the Ehrlich strain, centrifuged for twenty minutes and a dilute solution of three drops of serum to 2 cc. of water was applied to paramecia on slides in Petri dishes at 25° C.

For thirty-one days the paramecium division rates were deduced 23 to 27 percent in the sera from cancer-bearing mice compared with the rates in sera from normal mice. Phagocytosis was depressed in the sera from cancer-bearing mice. The same results were observed with sera of rabbits with the highly malignant Brown-Pearce tumors.

With human cancer, the blood sera were usually toxic, depending upon the dilution used and the degree of malignancy of the cancer. Sera from patients with benign tumors or from normal persons were nontoxic. Toxicity often remained after surgery but no relation to metastases has been established. Sera of three pregnant women were not toxic for paramecia.

In a recent paper in the *American Review of Soviet Medicine,* Kavetski (6) points out that Shabad first outlined the conception of endogenous carcinogens. He reported that it was possible to extract such substances from the liver, bile, lung, and sometimes from the urine of patients who died of cancer. Steiner in Chicago, Hieger in London, Tanaka in Japan, Sannie, Truhaut and Guerin in France, confirm these facts.

A great deal of work has been done in Russia (6) on metabolism of tumors of precancerous tissues and of the tissues of a tumor-afflicted organism which do not show malignant changes.

Medvedeva, in Bogomolet's laboratory demonstrated that dysoxidative carbonuria in cancer is so characteristic that if one can exclude diabetes and avitaminosis, the increase of carbon-nitrogen ratio in the urine can be used as a valuable indicator of malignant changes in the organism.

These observations were confirmed by Katcher, Pasternak, and Sidorova. In fact, more and more attention is now being paid to the entire tumor-carrying organism and not only to tumor cells. The studies of Bogomolets and Bricker and associates are concerned with this subject. Neiman investigated the effect of the connective tissue system on the development, transplantability, and metastasis of transplanted induced tumors.

The serum for stimulation of connective tissue, suggested by Bogomolets, the ACS (anti-reticular cytotoxic serum) was thoroughly tested in many experiments on animals. It has been proven that small doses of this serum stimulate the defensive and trophic functions of the connective tissue system.

At present the value of ACS is being observed in postoperative cases or after x-ray or radium treatment. Its use in these circumstances for prevention of metastases and recurrence is being studied.

In the field of new methods of diagnosis of malignancies, one can mention studies in mitogenic radiation, in the determination of dysoxidative carbonuria, in the analysis of carcinogenic properties of blood serum, and in the analysis of fresh preparations of the secretions of the affected organ. Gurvich and Zalkind consider the absence of mitogenic radiation of the blood as characteristic of cancer. The absence of radiation is ascribed to a certain factor called "extinguisher."

Pesochenski demonstrated recently the presence of this factor in the blood of mice during the period preceding formation of a sarcoma, if a carcinogen was introduced subcutaneously.

In studying the cancerolytic properties of blood serum in various human and animal experiments, Kavetski and his co-workers concluded that cancerolysis depends on two factors, the lytic factors specific for the tumor cells, and the inhibitory factor which inhibits lysis and autolysis.

Many investigations have been conducted in the Soviet Union (6) on biologic and chemical methods of cancer therapy. The laboratories of Bricker and of Kavetski have studied the spleen preparations, Tatarinov studied the effect of antisarcoma immune serum on transplantable tumors in rats; Magat, Goldshtein and co-workers have demonstrated the inhibiting effect of auto-oxidative complex iron compound on the growth of tumors which were transplanted or induced with carcinogens. These iron compounds, in the opinion of the authors, influence the metabolism of ascorbic acid in a cancer cell.

Roskin and Klyueva observed the effect of biotoxins on tumor cells and have recently reported encouraging results obtained on transplanted and spontaneous tumors of mice from injection of trypanosome extract. This preparation is known as KR. Its effect is now being tested on cancer patients.

Lawrence (7) discussing *isotopes in research* states the following: Recently much has been read of the atomic bomb and the uranium pile, and it is often inferred, that these new developments are going to revolutionize medical research and even therapy and that the cancer problem soon may be solved with their aid.

It is important, however, to keep in mind that there have been available from the cyclotron the various radioactive isotopes for biologic and medical research for over ten years; that is, since 1934. They have already facilitated numerous important contributions in medical investigation and will continue to do so; but one must not expect them suddenly to solve the cancer problem.

In the development of the atomic bomb and the uranium pile most of the fundamental research which made the atomic bomb nearly a certainty in time had been carried out prior to 1939.

In the case of the cancer problem this fundamental research has yet to be done.

However, a continued stream of contributions can be expected now that isotopes will be widely available for experimental investigation. For animal studies and for certain clinical studies their careful use by competent workers is justified and indeed urgently indicated.

In an editorial of the *Journal of the American Medical Association,* on "Cancer and Caloric Restrictions" (8) we read: The role of nutrition in cancer has received much attention, since both the developing cancer cell and the growing tumor must obtain sustenance from the metabolic pool of the body.

Tannebaum (9) demonstrated that underfeeding —restriction of the ad libitum intake of approximately one-third—invariably caused a significant reduction in the incidence of tumors in mice.

The inhibitory effect on tumor formation was noted with all four types of tumors studied—spontaneous mammary carcinoma, spontaneous lung tumor, induced carcinoma of the skin and induced sarcoma—suggesting that many types of tumors respond in a similar manner. Furthermore, the tumors of the underfed groups appeared, on the average, later than those of the full-fed groups. While the reduction in food intake to about two-thirds of the normal intake seems drastic, the underfed mice appeared healthy and in general lived longer than the controls.

Here are a few of the modifying factors, according to Cowdry (10) that may accelerate or inhibit malignancies:

Accelerators: Beta radiation; burns; vitamin A, B, C, D and E rich diets; high fat diet; feeding fresh liver and dried thyroid; sympathectomy; dinitrokresol and estrogen.

Inhibitors: Barium salts; subcutaneous injections of adrenalin; vitamin A, B, and E rich diets; diets deficient only in calories; diets deficient in cystine; hypophysectomy; mustard gas and testosterone.

The accelerators are said to give a better yield of cancers and the inhibitors to reduce the number of cancers, to delay their appearance, or both, seldom if ever entirely to prevent the malignant transformation.

The fact, declares Murphy (11), that tumors can be transplanted in series demonstrates that malignancy is centered in the cells, since the new tumors which result from inoculation are formed entirely by the multiplication of the introduced cells. Thus, removed from the environment in which the state has developed, the malignant property of the cells continues its course through years of transplantation, during which time the tumor is supported by hundreds of different hosts.

Mankind has no more enigmatic foe than cancer, has recently declared Parran (12). It has bewildered investigators for centuries. Now at last we are justified in looking ahead with some optimism toward future cancer control. We have penetrated a few of cancer's ancient imponderables and can point to some substantial gains during the past eight or nine years of study. Yet it is important to remember that, barring a near miracle, we still are a long way from solving the mystery of cancer.

Perhaps the most important contribution as a tool for further research is the successful inducement of cancer in normal cells grown outside the animal body. This gives us a small but firm base for departure in the laboratory.

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A COMMON CAUSE OF HYPERTENSION

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A new approach to the old problem of the etiology of hypertension is based on clinical research and observations made over a period of years by the writer. The theory presented is—that excessive use of spices and condiments, especially pepper, mustard, ginger, etc. is a common cause of hypertension.

The writer is aware that there are other causes of hypertension and that often hypertension is a symptom of other diseases. It is the so-called *essential hypertension*, with which this paper is concerned. The following series of documented case histories of persons with hypertension tell their story in the exact words of these persons who came, apparently well, to the writer for employment, promotion, periodic or insurance examinations:

1. O. B. male, age 44, blood pressure 160-100—Railroad periodic exam. "I eat a lot of pepper, mustard. pickle and salad dressing, especially pepper, and it is nothing for me to eat a gill of salad dressing."
2. H. M F. male, age 24, blood pressure 142-90—employment exam. "I have always eaten a lot of highly seasoned food. I always eat ketchup on meat. I eat about a bottle of ketchup per week, and also a lot of mustard."
3. H. F. male, age 53, blood pressure 180-120. "Have always eaten highly seasoned food, lots of spices and seasoning, pepper, mustard, pickle, ketchup, horse radish—I love it."
4. A. H. female, age 49, blood pressure 200-120, Slovak. "Have always eaten highly seasoned food; pepper, mustard, pickle, salad dressing and considerable ginger-ale."
5. G. S. male, age 45, blood pressure 230-130—employment exam. "I have always eaten a lot of pepper, mustard and salad dressing. I love hot peppers."
6. J. A. male, age 57, blood pressure 190-110—periodic exam. "I like hot food; pepper on potatoes, macaroni and in soup and on beans, and everyplace on food."
7. L. H. female, age 63, blood pressure 190-110—periodic exam. "I have always liked highly seasoned food of all kinds and I just love ketchup, and could eat it by the spoonful. I have put it in a sauce dish and eaten it, and I eat mustard on bread and butter, and put ketchup on bread and butter and eat it as a sandwich."
8. C. R. S. male, age 57, blood pressure 180-100—railroad periodic exam. "Have always eaten highly seasoned food, pickles, and mustard, spaghetti with pepper, ketchup and chili sauce."
9. H. H. female, age 66, blood pressure 260-160. "I always like my food highly seasoned with pepper, mustard, Worcestershire sauce, horseradish, salad dressing. I always have Worcestershire sauce on the table."
10. S. H. male, age 35, blood pressure 172-98—employment exam, Slovak. "Have always eaten highly seasoned food, pepper, mustard, pickles, chili con carne, ketchup and spicy stuff. When mustard is handy, I put it in my soup (½ teaspoonful)."
11. C. H. male, age 31, blood pressure 168-110—railroad periodic exam. "I always eat highly seasoned food in the winter. I like pepper, mustard, ketchup and chili sauce, Cayenne pepper in chili con carne. I do my own cooking on the caboose. I buy ground meat, beans and put lots of pepper in it. I put hot peppers and meat in a pot of spaghetti two or three times a week."
12. C. S. male, age 46, blood pressure 180-110—employment exam. "Have always eaten highly seasoned food. My wife seasons food, but I never think it is seasoned enough, so put more salt and pepper on it. Was a cook in the Army November 1918 to August 1919 and ever since have put on more seasoning."
13. H. A. male, age 49, blood pressure 180-110. "Have always eaten large amounts of pepper, ketchup, mustard. Always like my food well seasoned."
14. N. F. male, age 58, blood pressure 170-110, Italian. "I had ulcers of stomach 17 years ago, and have been on a diet since then, but before that I drank wine daily and had the usual Italian cooking with pepper in spaghetti, etc."
15. A. S. male, age 64, blood pressure 250-150, Hungarian. "I am a Hungarian and all my life I have eaten highly seasoned food, hot peppers, pickled food, all hot seasoned foods and wine with every meal until the last few years."
16. F. G. male, age 28, blood pressure 150-90, Slovak—employment exam. "I always have eaten highly seasoned food, Chicken paprika and goulash. Always have mustard (½ teaspoonful) on my sandwiches, or ketchup. Always add pepper to my soup."
17. O. W. male, age 57, blood pressure 165-120—railroad periodic, patrolman. "My wife says I put too much salt and pepper on my food. Use some ketchup."
18. J. E. male, age 64, blood pressure 220-120—railroad periodic. "Have always eaten highly seasoned food, ketchup, pickles, pepper. Have ketchup almost every day, all my life."
19. S. K. male, age 60, blood pressure 180-105, periodic, Finnish. "I formerly ate considerable ketchup, mustard on sandwiches, also horse radish, kosher pickles, chili and chili con carne and hot peppers."
20. G. M. male, age 42, blood pressure 140-98. "I eat a lot of meat with ketchup, mustard, and chili sauce and chili powder. I put pepper on potatoes and have chili con carne once a week."
21. F. V. male, age 49, blood pressure 140-100—periodic exam, Bohemian. "Previously ate considerable of condiments, mustard on sandwiches, pepper on hamburgers, ketchup once a week."
22. I. C. female, age 55, blood pressure 195-120. "Have always eaten highly seasoned food, pepper, mustard, pickle, and salad dressing."
23. G. J. W. male, age 47, blood pressure 140-90—railroad employment exam. "I season my food well with pepper and ketchup, especially my meat. Use mustard on pork, and put pepper (considerable) on potatoes."
24. A. J. E. female, age 60, blood pressure 235-100. "Up until 10 years ago ate much highly seasoned food, such as spaghetti, chili and stuffed peppers, goulash with chili peppers and ketchup."
25. J. C. R. male, age 46, blood pressure 160-100—railroad periodic exam. "Ordinary amount of pepper, ketchup and a little mustard at home. I eat a lot at restaurants on my run, especially at a Chili Parlor and another restaurant which specializes in "Hot Stuff" and hot soups, hot stews, especially hot peppers. Always use pepper on eggs for breakfast."
26. J. S. M. male age 30, blood pressure 148-100—railroad periodic exam. "I eat a lot of ketchup and put it on almost everything, even on eggs, lima beans and on French fried potatoes. Have eaten in restaurants for past two years and also while on road jobs for four years."

27. N. S. male, age 36, blood pressure 140-100—insurance exam, Slovak. "Have always eaten highly seasoned food because I like it. Some salad dressing, mostly pepper, some ketchup and mustard. I use a lot of pepper and some ginger ale."
28. J. J. S. male, age 55, blood pressure 180-110—railroad periodic exam. "I have always eaten anything, lots of pepper, mustard, ketchup, chili and everything spicy, also considerable ginger ale."
29. J. S. male, age 67, blood pressure 220-110—employment exam. "Used considerable mustard on meat in the past."
30. L. K. male, age 59, blood pressure 230-120—employment exam, Polish descent. "Have always used highly seasoned food, pepper and mustard. Season food more than ordinarily is done."
31. G. H. M. male, age 52, blood pressure 140-95—employment exam. "I am great for hot peppers, and eat a lot of black pepper on potatoes, beans and vegetables. I have always liked hot food and eat more than other people."
32. A. R. female, age 56, blood pressure 190-100—cafeteria employment exam, Finnish. "I always put ketchup on my meat and some on my potatoes. I eat lots of mayonnaise, which is my favorite, and some pepper."
33. N. O. male, age 29, blood pressure 140-90—employment exam, Roumanian, Merchant Marine for ten years. "I have always eaten a lot of pepper and salt and drink lots of coffee. Had Roumanian food at home and highly seasoned food on ship board, including mustard, pickles and salad dressing. Often have two or three highballs a day with gingerale."
34. F. H. male, age 43, blood pressure 170-120—employment exam, Slovenian. "Have always eaten highly seasoned food, pepper, mustard, ketchup, pickles. Plenty of black pepper in soup and Hungarian goulash."
35. A. H. female, blood pressure 200-120—employment exam, cook, Swedish-Finn. "I have always eaten lots of highly seasoned food. I always put hot sauce (A 1, "Hot pepper sauce") ketchup, etc. on my meat. I eat pickles with my main meal."
36. J. W. male, age 29, blood pressure 160-100—employment exam. "I have always eaten a lot of pepper, ketchup and salad dressing, pickle, mayonnaise and occasional horse-radish."
37. J. C. male, age 18, blood pressure 155-84—insurance exam. "Have always eaten considerable ketchup. I like the taste of ketchup and when I had a sandwich would cover it with ketchup. Also used mustard, but not as much as ketchup."
38. B. F. male, age 57, blood pressure 180-100—employment exam. "Have always eaten a lot of pickles, pepper, mustard, ketchup, and anything in that line, some of it almost every day."
39. M. C. female, age 50, blood pressure 188-120, Danish. "Have always eaten highly seasoned food, pepper, pickle, mustard, ketchup and some horse-radish."
40. J. E. L. male, age 39, blood pressure 150-88—railroad employment exam. "I like my food well seasoned with pepper, mustard, pickles, and salad dressing, ginger ale. Ate in restaurants for 12 years before marriage."
41. A. M. male, age 39, blood pressure 160-110. "I like 'hot salts' (like tomato ketchup—only as hot as you can eat) on food, on peas, beans, or eggs or bacon. Hot pepper—I can't get enough of them. I eat lots of it. I don't like an egg unless I have plenty of black pepper on it."
42. G. S. female, age 44, blood pressure 165-95—employment exam. "I have always eaten lots of pepper, mustard and spices of all kinds. I prefer those things to cake or pie. Also eat ketchup, mayonnaise and pickles."
43. W. A. C. male, age 40, blood pressure 170-110—railroad periodic. "Have always eaten highly seasoned food, pepper, mustard, pickle, ketchup. Have eaten mostly in restaurants."
44. A. H. S. male, age 32, blood pressure 140-90—railroad periodic. "Since my marriage eight years ago my wife has seasoned the food very highly. I eat lots of salad with dressing, spice cake, pepper, pickles and mustard on sandwiches."
45. J. H. male, age 48, blood pressure 130-100—employment exam, Slovak. "Eat a lot of ketchup, green peppers and chili (canned). Some pepper from pepper pot."
46. C. N. male, age 28, blood pressure 160-95, Roumanian. "Have always eaten a lot of pepper, mustard, pickle and salad dressing."
47. E. B. female, age 51, blood pressure 155-100—periodic exam, Hungarian. "I have always eaten highly seasoned food until the past year. Pepper, mustard, horse-radish, pickle, ketchup and paprika, I was crazy about them."
48. R. E. T. male, age 26, blood pressure 160-110—employment exam. "Eat a lot of mustard twice a week on wieners, I pour it on. I eat ketchup three times a week. I pour it on the plate, sometimes a whole bottle full."
49. J. S. male, age 33, blood pressure 180-100, Bohemian. "I am Bohemian and eat a lot of mustard and ketchup. Have mustard every day on sandwiches. Highly seasoned stew for supper, ketchup at least twice weekly."
50. H. F. female, age 49, blood pressure 228-120. "I love highly seasoned food, lots of salt, pepper, mustard, pickle, relish, ketchup and mayonnaise."

In striking contrast to the first group, the following cases present an entirely different story.

51. Male, age 64, blood pressure 140-70—railroad periodic exam. "Never eat pickles, vinegar, salad dressing, no ginger-ale, no beer or liquor and no ketchup. Very small amount of mustard on cheese, very small amount of pepper. I always liked simple food."
52. Male, age 45, blood pressure 120-80—employment exam, Slovak. "Have never eaten highly seasoned food. My wife is German and never puts mustard, pickle, salad dressing, etc. on table and we do not eat it."
53. Male, age 60, blood pressure 130-75—railroad periodic exam. "Have never eaten highly seasoned food. Never eat pepper, mustard (never tasted it) pickle, ginger ale, etc. Ate a little ketchup (few drops) on beans a few days ago, but have had no other ketchup in a year."
54. Male, age 53, blood pressure 110-80—railroad periodic exam. "Do not eat any condiments, except very little salt, and never have eaten any. Do not drink ginger ale, and no coffee."
55. Male, age 51, blood pressure 130-80—railroad periodic exam. "I very seldom eat any pepper, mustard, pickle, or any highly spiced food. I do not drink ginger ale."
56. Male, age 61, blood pressure 140-80—railroad periodic exam, Italian. "I was born in Italy, came to this country at the age of 16. I have never eaten highly seasoned food, no pepper, mustard, pickle, salad dressing and never did. Drink a small glass of wine two or three times a month only."

The cases cited and their stories of dietary habits in regard to spices and condiments are thoroughly typical of many of our citizens, and could be multiplied by tens and tens of thousands.

They represent a cross section of an urban community, different nationalities and stations in life, without regard to wealth or lack of wealth, and illustrate desires and tastes, and excesses of desires and tastes; control and lack of control. Most of them do not exemplify one of the most important rules of health—moderation in all things.

The extent to which appetite may lead to the abuse of condiments is not realized adequately. Truly half of the world does not know how the other half

lives! It has been said that Columbus was led to undertake his voyages of discovery to seek a new route to the "Spices of the Indies". What irony that the new world he discovered supports the largest spice-consuming nation in the world!

What tragedy that hypertension and its sequellae increase at such an alarming rate!

The conception that the ingestion of spices and condiments (not salt) might be the cause of hypertension occurred to the writer while giving physical examinations to all the employees of a large woodworking plant where many Hungarians were employed and where degrees of hypertension were so much more common in the Hungarian than in the other employees unless they were Italian.

The idea was strengthened in the routine examinations of many other Italians from an Italian neighborhood not far from the writer's office, who were employed in other shops nearby. It was further strengthened by periodic examinations of railroad employees, applicants for insurance and private patients. The numbers of these examinations of the apparently well have averaged 1300 per year and represent a fair cross-section of an urban population.

When elevation of the systolic and diastolic blood pressure were found and emotional factors and organic lesions were eliminated, careful questioning invariably elicited the information that the subject was an excessive user of the condiments.

Race or nationality in itself does not determine the use of condiments, but those of Hungarian, Italian, Slovak, Slovenian descent and others usually are accustomed to heavy use of the condiments. The hereditary aspect of hypertension should take into consideration the type of food usually consumed by the family, for as the parent does, so often does the child.

Overweight is often associated with hypertension, but not invariably so. The overweight person usually likes to eat and often favors the condiments. In contrast the native Chinese and Hindu (probably on a condiment-free rice diet) and the Negro in Africa are reported to average a lower blood pressure, than their brothers on a different diet in this country.

Hypertension is said to be no respecter of persons. It may or may not be found in the rich or poor, the educated or the illiterate, the executive or the laborer, the worker or the drone.

It is the common denominator in these varied individuals with hypertension, the continued and repeated consumption of spices and condiments.

The writer believes this to be true and suspects the damage to be done by injury to the kidney through which condiments are largely eliminated from the body. If at the same time chronic infection with its toxins and blood borne organisms is present the damage is likely to be more severe. If the mechanism is by kidney damage, and as such may be irreversible, it may explain why cure is so seldom found, and treatment at present merely palliative. Prevention is to be desired.

The writer is of the opinion that hypertension may be produced experimentally in animals by repeated ingestion of these spices and condiments. In summation, a series of cases of hypertension has been recorded with a report in their own words of their excessive consumption of spices and condiments. The theory is presented that excessive use of spices and condiments, especially pepper, mustard and ginger is a common cause of essential hypertension.

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SUBJECTIVE AND OBJECTIVE NOISES IN THE EAR ("BUZZING")

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Whether we call the condition *tinnitus,* buzzing, or noises in the ear, we learn from Politzer and other pioneers and think of the characteristic types of subjective sensations (noises) experienced as the result of either direct or reflex irritation to the eighth cranial nerve.

How does the average patient describe his condition to his doctor?

The patient simply imitates some buzzing or whizzing. Some patients experience sensations of hissing, roaring, ringing, singing, humming, seething and whistling in the ear.

As long ago as 1838, Johannes Muller, *Manual of Physiology,* London 1838-1842, whose work was translated by W. Baly, considered such sensations or sounds to be due to contractions of the tensor tympani muscle. Later in the 19th century, Schwartz, in a paper published in Vienna (1864), believed that these noises in the ear were caused by a separation of the walls of the eustachian tube—a view also held by Luschka.

Although the investigators and otologists of long ago spoke a good deal of objective noises in the ear, their observations and published treatises embrace almost all the phenomena of present day knowledge and procedure in connection with this condition except some of the etiological theories as known today.

We find the ages of these patients reported varying from ten to fifty years; and sex seems to have no special relation to the trouble as an etiological factor, since it occurs in both sexes with about equal frequency.

A careful study of these reports will reveal that ear noises seldom occurred on more than one side at a time; but in some cases they appeared in both ears. In many of such conditions the hearing was absolutely normal; in others defects of various degrees were present. However, we must never forget that deafness and tinnitus may be coincidental and have nothing to do with etiological factors. And although the lesions causing deafness cannot always be eradicated the causative factors of ear noises may often be relieved.

Etiology of Subjective Noises in the Ear

The subjective sensation of buzzing in the ear or tinnitus is a symptom of common occurrence. The term or terms alluded to this condition are of course incorrect as in most cases the sound does not arise in the patient's ear, but is due to some other disturbance in the intercranial circulation. Therefore, the etiological factors are numerous and far reaching.

For instance, a disturbance of the auditory nerve may easily produce the subjective sensation, what the patient calls noises or buzzing. This may be due to disease of this structure, but could also be induced by various substances or drugs which seem to have a peculiar effect upon the nerve such as quinine and salicylates; or by toxins generated in the gastrointestinal tract (constipation).

Subjective noises are a greater trouble to the patient than the objective variety and are even of more interest and offer greater opportunity for cooperation and study for the otologist and general practitioner.

Some otologists and authors believe that this condition is always caused by disturbances or irritation of the auditory nerve or its terminal filaments in the labyrinth. While such beliefs may be true in the majority of cases, they must not be conceded in every case.

Perkins, in his work *A Manual of Otology* states in this connection: "If one occludes the external auditory meatus with the finger there is immediately produced a rumbling sound. This is not produced by irritation to the auditory nerve or its terminal filaments.

"The explanation for this phenomena doubtless accounts for the production of tinnitus in many instances in which it is present as a symptom of disease in the sound conducting mechanism. The noise produced by the circulation of the blood in the labyrinth and the blood vessels adjacent to it, is below the threshold stimulus for the perceptive mechanism, and therefore is not heard by the normal ear.

"It is known that with disease of the conducting mechanism, vibrations of the labyrinthine fluid produce more effect upon the accoustic apparatus. This accounts for the increased bone conduction which is present in these diseases.

"The labyrinthine fluid is with more difficulty set in vibration by aerial conduction on account of the disease, but if caused to vibrate by conduction through the bone, the fork is heard louder and longer on account of the disease.

"It is evident that the sound produced by blood circulating in the labyrinth and vessels adjacent to it produces an effect which in the normal state is inaudible, but with increased perception for a given vibration of labyrinthine fluid, which has been shown to occur in diseases of the conducting mechanism, it rises into consciousness and is perceived as a noise.

"This accounts for the sound perceived when the finger is inserted into the ear and also doubtless for many subjective noises."

In other words sounds produced this way have a physical basis, while those produced by pathological disturbances arise chiefly from a stimulation of a nonsonorous character which is believed to be sound. It is therefore well to remember that increased labyrinthine pressure by producing some disturbance of the organ of Corti may also cause tinnitus.

Aside from intralabyrinthine pressure—with or without deafness—and otosclerosis, we must never lose sight of such conditions as existing external (cerumen—otitis), middle or internal ear diseases, dental pathology, anemia or other constitutional diseases; coexisting nasal and nasopharyngeal diseases; nervous irritability, etc.

Objective Noises in the Ear

(Vascular and Muscular in Origin)

Such phenomena have been reported more or less in past years. Various writers and otologists have from time to time spoken on the subject, although most surgeons have not been greatly impressed by these phenomena. The latter fact is probably due to the comparative rarity of their occurrence and the few published accounts of such cases.

When the sounds are of vascular origin, they may arise within the carotid artery, or bulb, aneurism or tumor of the brain. This condition offers a field for genuine cooperation and study between the otologist and general practitioner, since these manifestations are often due to real pathological processes whose nature could obviously be obscure—in this variety of objective ear noises.

The noises or sounds to be considered here (entotic noises—muscular) have been compared to the snapping of the finger nails. Unlike the perversions of hearing such as in the subjective variety the examiner is often able to hear the entotic noise; aside from the snapping sounds we often encounter a form of clicking sounds and a blowing murmur. The clicking sounds may undoubtedly be due to some movement of the Eustachian tube or to spasmodic contraction of the tensor tympani.

In respect to the etiological factors of these objective noises, our 19th century observers had a good deal to say and their theories and opinions still prevail—to a great extent.

The scientist spoke about the contractions of the tensor tympani muscle in connection with this trouble; they cited cases in which the mucous membrane lining of the pharynx, the inferior turbinals and the nasal cavities were in condition of catarrhal inflammation and hypertrophied—sufficient cause of irritation to the sensitive nerves of these parts to produce reflex spasms of the underlying muscular tissues through the motor nerves.

It is most probable that some of our present day

observers and practitioners believe in similar theories as those of bygone years.

The following case histories are presented with a view of emphasizing the complex nature of such conditions rather than to suggest a certain specific therapy purported to be a cure-all.

Case Reports

Case 1: Mr. C. W. S., age 40, was first seen on April 12, 1944. He complained of pain in the left postauricular region, somewhat disturbed hearing and of buzzing in the left ear, postnasal drip, loss of smell and a susceptibility to catching cold.

He gave a history of nasal trouble and surgical procedures to his septum (had submucous resection) and maxillary sinuses. Hearing in left ear was a good deal impaired; this was complicated further by otorrhea from the same ear.

The patient presented a picture of the proverbial nervous man; he looked worried, apprehensive and very impatient in connection with the ear, nose and throat examination.

Examination of the ears revealed both drums to be perforated, thickened and retracted; there were symptoms of suppuration in the left middle ear. The nose and throat revealed hyperemia and symptoms of pathology of the lower sinuses, and tests with tuning fork showed only slight loss of hearing in left ear.

X-rays of mastoids revealed a large suppurative area on the left side. Because of the peculiar history of tinnitus in connection with past nose and sinus conditions and the present symptom of pain in the left ear, and because of the x-ray interpretations and findings, it was felt that surgical intervention was justified.

Examination of the blood showed red cells 5,600,000; hemoglobin 75 percent. The Wassermann and Kahn were negative. Operation was advised.

On April 15, 1944, a mastoidectomy was performed by this doctor at Belmont Hospital, Chicago. Convalescence was uneventful. To our surprise the tinnitus disappeared completely in the surgical ear. After several months it reappeared in a very mild form, but disappeared within a few days.

Case 2: Mr. J. F. B., age 57, was consulted on January 25, 1946, complaining of severe subjective tinnitus in both ears alternatingly. He had neither pain, otitis, nor otorrhea. The past history was a long one of frustration and a good deal of medical and surgical treatments. In short, the man presented a picture of gloom and hopelessness.

His right ear was deafened and his left ear completely deaf, and he had suffered from hyperesthetic rhinitis or hay fever for many years. Examination of the ears revealed both drums perforated, thickened and retracted; there was no evidence of suppuration, but the left external ear canal contained rather a large polyp. The nose and throat showed very little pathologic changes. Tuning fork tests showed bilateral tone deafness. The blood pressure 124 systolic and 84 diastolic.

He was previously treated by a number of otologists who had given him a series of hyposensitization treatments with histomine; they had treated him with vitamins, drugs, sulfa, etc., etc., with no apparent results. He believed that politzerizations which he received from his former practitioners helped him temporarily; but he soon suffered in a more aggravated way, according to the patient.

On April 5, 1946, the polyp from his left ear canal as well as some of the polyps he still had in his left nostril were removed at Alexian Brothers hospital, Chicago.

The tinnitus subsided for about one week postoperatively, but returned to the preoperative intensity within several days. A series of prostigmin and hyposensitization treatments with histamine given subcutaneously brought no change in his condition. The patient refused the fenestration operation.

Case 3: Mr. R. T., age 50, was first seen on January 11, 1937. His chief complaint was a noise in the left ear synchronous with the heart beat. The past history gave no clue nor had any relationship to the complaint.

The patient claimed that the peculiar sensation of sound or noise was most experienced when he held his head straight, and that it subsided when he turned his head to the left.

Examination of the ears revealed practically negative results; and the hearing in both ears was correct within normal limits. Through the ausculatation tube a faint, blowing sound synchronous with the pulse was heard by me. On tilting the head slightly to the left the patient stated that the sound gradually grew less and finally ceased. A similar sound could be heard over the upper part of the left carotid artery, but no such sound could be heard over the right carotid.

Examination of the fundus of the left eye revealed the nerve head to be normal. The superior branch of the central retinal vein showed marked pulsation. In the right eye the nerve head was normal. Transillumination and x-ray of the skull showed no trouble. The Wassermann was negative but the blood showed some anemia. Because of the anemia, the patient was referred to an internist.

Prognosis

The prognosis of subjective or objective ear noises will naturally depend upon the pathology of which their occurrence is a symptom. In eustachian tubal catarrah and tubotympanic congestion, especially in the exudative type of otitis media, the prognosis is not always hopeless. In the suppurative middle ear diseases the noises are more apt to disappear than in the hyperplastic form of otitis media catarrhalis.

In otosclerosis, on the other hand, such phenomena may persist even when deafness is most profound. In sensitive, nervous patients tinnitus had led to suicide. It is, therefore, necessary to remember that the patient, while recognizing the subjective nature of the noise, cannot often resist the temptation to think that the buzzing or noise could also be heard by others. Hence, the physician could do well by impressing the fact upon the patient that the noise is only subjective; otherwise his fears and belief that the sound is produced from within would constitute an hallucination.

In the objective variety we only have to think of aneurism and brain tumors, otherwise favorable results are more possible if we could control the

nervous incident—an opportunity for the general practitioner to study the patient's habits, blood pressure, gastrointestinal conditions, anemia, vascular diseases, blood dyscrasias, syphilis, tuberculosis and drug intoxications.

Summary and Treatment

1. Therapy for tinnitus aurium should be directed first on the cause rather than on the symptom, later toward the eradication of the faulty structure in the pathway of the nerve mechanism of the tinnitus impulse.

2. Disturbances along the auditory nerve tracts, directly or through the autonomic nervous system, may cause sensations of buzzing or noises in the ear—a response to sensory stimulation.

3. Deafness and head noises may be coincidental but etiologically very far apart. Even if the pathological conditions causing the deafness cannot be eliminated, the etiological factors of tinnitus may often be removed.

4. When nasal, sinus, suppurative middle ear disease or tubal conditions are factors in the cause of subjective noises in the ear, the proper treatment after correct diagnosis will often be followed by dramatic, good results.

5. It has been a recognized fact that no single drug is able to control the underlying cause of ear noises. In fact, few drugs directly control degenerative processes of the auditory nerve. However, proper antisyphilitic treatment may be of value in specific cases, according to some. But all in all, the routine use of vitamins, histamine, prostigmin and other drugs has been attended by poor results.

6. Most patients respond to intelligent treatment; some conditions are psychosomatic in origin.

7. No seemingly trivial condition should be overlooked. Anemia, increased arterial tension, blood disease, should receive the proper attention. Constipation is able to keep up the subjective noises or even increase them.

8. In severe cases the possibility of relief by surgical means naturally is thought of. Some advocate myringotomy, while others prefer fenestration or double fenestration. Further, some perform ossiculectomy or even divide the auditory nerve at the internal auditory meatus.

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THE TREATMENT OF A PROSTIGMIN-RESISTANT CASE OF MYASTHENIA GRAVIS WITH COMPLETE RECOVERY WITH ANTERIOR PITUITARY TREATMENT

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The purpose of this paper is to report a case where the oxytocic principle of the posterior lobe of the pituitary body was used in a prostigmin-resistant case of myasthenia gravis. The patient developed this syndrome about two and one-half years ago, and received a large amount of prostigmin perorally as well as orally, and the atropine-ephedrine regime.

The writer does not attempt to emphasize here any etiology in this case of myasthenia gravis, nor does he endeavor to go into the details of the various experiments which were done lately on this illness. But this paper deals mostly and emphatically with a case of myasthenia gravis in a patient who progressed into a far-advanced grave stage where prostigmin became practically useless after having been given intravenously in large amounts and without any effect whatsoever, and where resistance to the drug gradually was developing.

It is known from all the findings and studies of myasthenia that this is a symptom complex more likely a syndrome where the striated muscle fibers are involved mostly, where parasympathetic drugs were used—not as a cure—but for relieving the symptoms which might be fatal for the patient who may develop a paralysis of the respiratory muscles, etc.

P. L. P.* is well-known for its action on the non-striated muscles and is used especially by gynecologists and obstetricians for the purpose of stimulation or contraction of the non-striated muscle fibers of the uterus, upon which this drug acts. However it is believed that after using the drug in this case and since the P. L. P. reacts indirectly on the striated muscle fibers, (which was seen when given for uterine contraction in child delivery) the pelvic muscles are also stimulated secondarily to the uterine muscles.

When the uterine muscles contract, there is an intercommunicating reflex stimulation to the voluntary muscle fibers of the pelvic muscles. Taking into consideration the dysphagia, which is one of the symptoms which is common in myasthenia gravis, the esophagus has a combination of voluntary and involuntary muscles interwoven with each other, with both muscles reacting to the prostigmin.

Perhaps, if we say that the P. L. P. works on non-striated muscles alone, this may be contradicted by this case. For in using the P. L. P. as an emergency measure when a stimulation of the striated

P. L. P.—oxytocic principle of the posterior lobe of the pituitary body (alpha hypophamine); proprietary name is Pitocin, made by Parke, Davis and Co.

muscles is wanted, they may be stimulated indirectly through the non-striated muscles. It was with this thought in mind that P. L. P. was used as an experiment which proved to be in this reported case a life-saving measure.

Case History: H. B., age 45, white, fairly well developed male, 5'9", former average weight 145 pounds. Family history is normal. Father and mother both died in a German concentration camp; cause of their deaths is well understood. He is the only son. He has one sister, who is normal and married.

Present Illness: This patient is a bachelor who is engaged in the insurance business, in which he was quite active until two and one-half years ago, when he developed muscular weakness of the face and dysphagia. This was relieved by prostigmin.

When the early symptoms started in this patient, he was visiting some of the most outstanding neurologists in the country. There was a diagnosis made of Bulbar syndrome, until he received the prostigmin test. After the symptoms of myasthenia gravis began, x-rays of the chest were taken for the purpose of finding a thymus enlargement, or possibly a thymoma; the latter with metastasis was suspected in the chest.

The biopsy did not verify the same. When the biopsy was made, the pleura was opened in the right chest. The patient developed a pneumothorax with a complete collapse of the right lung, and pneumonia of the left lung. The suspected metastasis was disseminated all over the chest, according to the report of the roentgenologist. The patient had several x-ray treatments for this suspected metastatic lesion, but the x-ray did not reveal any enlargement of the thymus gland whatsoever.

At the time he was pronounced healed, the metastatic lesion or shadows disappeared, according to one roentgenologist, although some shadows were present on the x-ray films. Therefore, thymoma with metastasis was a very dubious diagnosis.

Physical Examination: Slight ptosis of the eyelids and disturbance of speech were evident. The patient is unable to whistle or keep up long conversations, for his speech will become slurred and he will have to support his chin with his hand after a while. This latter occurs 1-2 days per week at the present time, while before P. L. P. started, this occurred daily.

Heart and lungs are normal, blood pressure normal, extremities essentially normal; some weakness of the muscles of both hands noted. Neurological examination—deep and superficial reflexes normal, urinalysis normal; serology normal.

This patient is not losing weight since the amount he lost during the acute phase of his illness. He weighs 140 pounds and has maintained this weight for the past six weeks, since he started P. L. P. The entire physical examination is essentially negative. There are no evidences of somatic disturbances other than those which are common in myasthenia gravis.

In the early part of this illness, the patient received prostigmin by mouth (prostigmin bromide, 15 mg. tablets), starting with five tablets and gradually increasing to 16 tablets per day. The usual symptoms—ptosis of the eyelids, dysphagia, paralysis of the oral and facial muscles, myasthenia which caused temporary paralysis of the intercostal muscles, etc.—were controlled by the varying amounts of tablets.

He also received atropine by mouth in the form of tincture of belladonna (10 drops, 2-3 times per day) and ephedrine sulphate (⅜ grain, 2-3 times per day). One time he was placed on high doses of potassium, thiamine, and whatever was used as a treatment for the symptoms of myasthenia gravis.

Six months ago, this patient gradually developed a resistance to prostigmin and his symptoms gradually became acute so that prostigmin methyl sulphate (1-2000) was given hypodermically daily so that he would be able to eat. These injections generally were given about thirty minutes before mealtime, in addition to the oral medication.

Three months ago, the condition of the patient became such that the dysphagia progressed to such an extent that the prostigmin methyl sulphate (1-2000) injection had to be given intravenously every other day. About two weeks after this treatment started, for one or two days—in order to relieve his acute symptoms—he was given both intravenous and subcutaneous injections.

The patient took sixteen 15 mg. tablets of prostigmin at that time, plus large doses of atropine and ephedrine. When his condition developed into an acute grave stage, adrenalin was given intravenously in addition to the prostigmin, all at one time, as an emergency measure. It was in this acute stage of illness that the patient called upon the services of the writer for the first time.

No marked relief was observed from the adrenalin and prostigmin intravenous injection except that the acute dysphagia was relieved for no more than one hour, and an almost complete tolerance developed to the drug.

The patient went into shock for about twenty minutes, which possibly was the result of the adrenalin. Following this, the patient again relapsed into a grave state of myasthenia gravis.

Intravenous medication was continued for 2 to 3 days longer, with increased doses of belladonna and ephedrine. The patient gradually increased his resistance to prostigmin during these two days, and therefore, the writer gave him one injection of P. L. P., together with prostigmin hypodermically. The acute symptoms immediately abated after this injection and the patient was better and was able to breathe more freely.

Two days after this acute phase of his condition, the P. L. P. was given again by itself and was continued three times weekly for about one month, at which time the prostigmin dose could be reduced to 13 tablets per day and the prostigmin injection omitted entirely.

The patient's condition was improved to such an extent that he was able to eat and talk better and he had a better outlook upon life. Now the patient possesses a more hopeful insight when he has a recurrence or exacarbation of the symptoms.

Although he still has some symptoms of impairment of speech, due to the weakness and loss of control of the oral muscles, and slight ptosis of the eyelids, this is only present occasionally and only for two or three days of the week. He is able to attend to his business activities about two or three times per week; he was able to do this but rarely while he was taking the large doses of prostigmin by mouth and perorally.

At the present time, he receives two injections of P. L. P. per week and the prostigmin tablets are reduced to about 11 tablets per day. Now, when the patient has a return of some of the symptoms of myasthenia gravis, he is given an injection of prostigmin sulphate (about once in two weeks) in addition to the P. L. P. The patient occasionally goes for three to four weeks at a time without any prostigmin injection and with the P. L. P. injection alone.

However, the tablets of prostigmin are continued still, together with the ephedrine and atropine. The patient's symptoms improved and gradually lessened. The patient, whose former average weight was 145 pounds, lost five pounds during the prostigmin therapy inanition, but has maintained the 140 pounds since the P. L. P. was started.

Comments

Patient, age 45 years old. He was in good physical condition, but had developed myasthenia gravis syndrome about two and one-half years ago. He has taken large amounts of prostigmin by mouth, hypodermically and intravenously, in addition to the usual associated medications commonly prescribed for myasthenia gravis.

He gradually progressed into a grave state of myasthenia gravis in which the prostigmin injections given intravenously, together with adrenalin as an emergency measure, resulted in no improvement. He was placed on a medication of P. L. P. injections, which he received twice weekly, and the symptoms were improved to such a degree that he could reduce the doses of prostigmin to 11 tablets per day and waive the treatment of prostigmin, hypodermically and intravenously, to which he had gradually developed a resistance.

P. L. P. is well-known for its action on the non-striated muscle fibers, mostly used for its oxytocic principles, and the prostigmin is well-known for its action mostly upon the striated muscle fibers, which are those most involved in myasthenia gravis. Therefore, it is proven by the reaction to this P. L. P. treatment by this patient that myasthenia gravis is not a disease or a symptom complex where striated muscle fibers alone are involved, but that there must be an intercommunicating between the striated and the non-striated muscle fibers where such an oxytocic principle of the posterior lobe of the pituitary body reacts.

This patient developed a tolerance and resistance —almost an immunity—and a partial fastness toward prostigmin, and in such cases as the one reported here it is worthwhile trying P. L. P. where the prostigmin has lost its effect or is of no avail. This patient is markedly improved by the present regime of treatment where he receives 11 to 12 tablets of prostigmin per day without any peroral use of prostigmin so that the patient does not develop an entire fastness toward prostigmin, but reduces the resistance by using P. L. P.

When the patient does not receive any P. L. P., his symptoms become worse. The only untoward effect of P. L. P. in this patient is temporary mild polyuria; also, one time he complained of some neuralgia of his arms, which became evident mostly with the first 2 to 3 injections of P. L. P. A placebo was tried once in hypodermic form, but it had to be supplemented by the P. L. P.

The writer could not find any reports in the literature of similar cases of myasthenia gravis which progressed toward a grave stage. Cases which developed an almost complete resistance toward prostigmin, where P. L. P. was used in an emergency measure and maintained all along in order that the prostigmin would be reduced and given in small doses and maintain its effectiveness.

At the present time it may be said that for the first time the patient has had several good days, lasting as long as two weeks, when he has no disturbances or symptoms of myasthenia gravis, and such days are becoming more frequent when he becomes entirely like a normal individual. His present diet consists of nourishing foods and milk. As to the etiology of the illness, there is no evidence of any enlarged thymus gland, but after administering P. L. P. to him and cutting down the prostigmin, the patient was advised of irradiation of the thymus. Improvement was noticed after the P. L. P. was given to him for four weeks before the irradiation was started. The writer still believes, since the patient had such irradiation before at the time when the illness began, that it has no connection with the improvement which he obtained with the P. L. P.

Here we deal with a patient who has an advanced case of myasthenia gravis. He received large amounts of prostigmin by mouth, hypodermically and intravenously, and slowly developed an almost complete fastness toward the drug. He was given P. L. P. and was maintained on this drug as a life-saving measure.

The prostigmin tablets would be reduced and the injections could be discontinued. An injection of prostigmin can now be given in an emergency and the full effect obtained, while the patient reacts to this injection of the drug as he did when it was given at the beginning of his illness. It is worthwhile trying in any cases of myasthenia gravis in which the patient does not get the expected reaction from prostigmin that the physician expects and may obtain a dramatic result as it happened in this case.

There was no attempt whatsoever to discontinue the old medication of prostigmin, because it is believed that even after continued oral intake of prostigmin, it shows some effect even though not as much as when taken in the early stages of the illness. This proves that the patient is not and was not entirely prostigmin-resistant, but that he did not react to the prostigmin at the acme of the acute phase of the illness, as was expected.

Therefore, P. L. P. was sought and given as an emergency measure. This theory of the action of P. L. P. as reinforcement of the smaller dose of prostigmin at the acme of the acute phase of the illness should be considered, especially when the patient fails to react to the larger dose of prostigmin as expected.

If the patient begins to build up a tolerance, such tolerance building action may be prevented by P. L. P.

It is worthwhile to investigate the action of prostigmin. Does prostigmin react on the involuntary muscles by electric, thermal, or chemical stimulation from the voluntary to the involuntary muscles? Does P. L. P. react on the voluntary muscles by that same electric, thermal, or chemical stimulation as we see the action in childbirth—when the oxytocic is used and also in the case reported here where the changes observed in the acute dysphagia disappeared after the use of P. L. P.?

This case reported here may open a great field of investigation of the further physiologic action of P. L. P. on the sympathetic and parasympathetic systems, and also the further studies of the physiological pathology of myasthenia gravis. This case proves definitely that myasthenia gravis is not a syndrome complex of the striated muscles alone, but of the non-striated as well, especially since the known drug action reported here. The writer suggests the investigation on more patients along this line, and also further detailed animal experimentation.

Summary

A case of myasthenia gravis is reported here in which the prostigmin did not take effect after a long period of time. Oral, subcutaneous, and intravenous use of prostigmin did not control the acute phase of the symptoms when these became grave.

In this case, P. L. P. controlled all symptoms and this drug proved to be an excellent adjutant in the treatment of myasthenia gravis.

Prostigmin resistance abated with the administration of P. L. P. The patient received only minimal doses of prostigmin by mouth and P. L. P. was substituted. Considerable improvement was noted. This is the first case reported in medical literature where P. L. P. was used successfully in the treatment of myasthenia gravis.

Myasthenia gravis is not a disease where striated muscle fibers alone are involved.

P. L. P. probably acts through electric, thermal, or chemical stimulation from the involuntary to the voluntary muscles. Prostigmin—which is specific in the treatment of myasthenia gravis—lost its effectiveness after the continuous administration of this drug in large doses, and the symptoms became almost fatal. P. L. P. acted as a life-saving measure. It may be used as a reinforcement of the action of prostigmin, making it possible for the latter to be given in very small doses orally.

Postscript to the Editor

Since this manuscript was prepared, the patient had a syncopal attack—fell in the bathroom, causing a deep laceration on the scalp on the back of the head. The period of unconsciousness lasted only four minutes. No convulsive movement during this fainting spell.

This is the first fainting spell since illness began and no history of any previous spells.

It was believed that the pituitary gland injections may have had some connection with this spell, therefore this was reduced to one injection weekly and the prostigmin tablet to six tablets daily.

The ephedrine-belladonna is now discontinued. The patient eats and talks fairly well without any slur in his speech and is able to attend to his business activities as he has done before Myasthenia developed.

There is no question that this pituitary extract, the patient has received as treatment and as an accessory to prostigmin, can be added to the medical armamentarium and can be considered as in this case, a definite cure. Therefore it is worthwhile to be prescribed in every case with or without myasthenia upon its merits.

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SOVIET MAGIC WITH BLOOD

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The use of blood in various conditions of the human body characterized by one defect or another has yielded some remarkable results at the hands of Soviet doctors. They have used blood from sources previously not employed.

In 1927, Dr. V. N. Shamov became very much interested in the correction of bodily defects by using tissues taken from the dead. He performed a great many experiments to determine the suitability of using different types of tissues and organs from the dead. The doctor became interested in ascertaining whether blood from cadavers could be used in living human beings, and tested the vitality of the blood from human cadavers to replenish the blood volume of dogs nearly dead of exsanguination.

The dogs made good recoveries, provided that the blood was taken from two to twelve hours after death.

Dr. S. S. Yudin applied Dr. Shamov's experiments in human beings. The first case was an engineer who tried to commit suicide by cutting his arteries and nearly bleeding to death. His life was

saved by Dr. Yudin who used the blood from a man who had been dead nearly three days. The engineer recovered promptly.

Dr. Yudin had six more cases of blood transfused from a cadaver to a living human being before he wrote his results in a paper. He reported them for the first time on September 7, 1930. In November, 1932, he reported favorable results in his first one hundred cases of using blood from the dead to give added years to the dying. Since then this practice has been widely used in the Soviet Union.

The use of placental blood has been fully developed by Soviet surgeons. Dr. M. S. Malimovski performed the first series of experiments along this line in 1934. Two years later, Drs. Bruskin and Ferberova of the Central Oncologic Institute of Moscow reported that 114 transfusions of placental blood (preserved six to ten days) had been used with good results. Their clinical work had been preceded by many experiments on animals and laboratory investigations of the properties of this type of blood. They were able to recover 50 to 120 cc. of blood from each placenta.

Within a year Dr. Stavskaya had greatly improved this method. She was able to collect from 80 to 300 cc. of blood from each placenta and stored the blood for fifteen days. In 1935 Dr. Kantorovich began to use placental blood for massive transfusions and other doctors soon adopted this idea.

Blood transfusions and other uses of blood have received widespread attention in the U.S.S.R. Many interesting studies have come from Soviet hospitals, laboratories and clinics concerning the miracles that may be performed with blood. Dr. A. A. Bogomolets did remarkable work with blood transfusions in delaying the onset of old age.

Dr. Bogomolets' theory as to how blood transfusions help in rejuvenating the system is most interesting. Since the aging of the organism is accompanied by accumulation within the cells of biologically inert protoplasmic molecyles, their removal from the cellular elements by means of blood transfusion must have to a certain degree, a rejuvenating effect on the organism. It is possible, therefore, according to Dr. Bogomolets, for small, frequent transfusions to delay premature aging of the body.

The resorptive effect of transfused blood suggests the possibility of favorable action of blood transfusion in functional disturbances of the blood vessels, according to Dr. Bogomolets. It is therefore possible that repeated blood transfusions may prove an effective measure against the development of arteriosclerosis.

Two other Soviet scientists who have done much with blood in the treatment of various conditions are Drs. A. A. Bagdasarov and M. C. Dultsin. They have found that blood transfusion in large doses produces a healing effect in hemophilia. Blood transfusions are of value in treating infectious diseases because they lead not only to a higher degree of non-specific immunity, but also to non-specific desensitization and detoxication. Blood transfusions are also of value in vitamin deficiencies. Small doses of blood creates a favorable "soil" for more rapid and effective use of vitamins and minerals.

Dr. Rodigma has done some interesting work with blood transfusions in the treatment of eye cataracts. The work in this field is thus far rather limited, but the future holds much promise.

Drs. A. A. Bagdasarov and M. C. Dultsin have also had wide experience in using blood transfusions in the treatment of infectious diseases. In severe scarlet fever, transfusions of 100-150 cc. of blood in the first days of illness lead to rapid improvement in 70 percent and not infrequently aborts the disease.

Excellent results have been obtained by blood transfusions in dysentery. During the early days of the illness, 75-100 cc. of blood is given and is increased in the later stages to 250 cc. when anemia develops.

Soviet physicians are using blood tranfusions in the treatment of malaria when there is a resistance of the body toward treatment with antimalarial agents and in the presence of anemia and colitis.

In acute rheumatic fever intramuscular injections of blood are given in order to increase the effect of large doses of sodium salicylate. Favorable results have been received by Dr. Goriaev in using transfused blood with sodium salicylate added.

In cases where fresh blood is not available, Dr. V. I. Kasanski has been using frozen plasma as a blood substitute. The frozen plasma is thawed out in twenty minutes and is injected in the usual fashion. Dr. Kasanski has found that frozen plasma after thawing does not show any toxic effects when used in human beings, even in large doses. The healing effects of transfused thawed blood is the same as that with fresh plasma.

Thawed plasma may be used for the same diseases and in the same doses as fresh blood. Frozen plasma, like fresh plasma, is the best blood substitute.

Dr. Kasanski has found new uses of red blood cells which were formerly discarded when making plasma. He uses the red blood cells suspended in a special solution devised by himself. This liquid is particularly of value in acute blood loss, in spetic diseases and anemias due to profuse bleeding.

Thrombin was discovered in the blood about fifty years ago, and until recently it possessed little value. The development of a technological process for large scale isolation of thrombin was started by Dr. V. A. Kudyrasho and his associates several years ago and was perfected in 1943.

Thrombin is now widely used in medicine and surgery. Dr. N. N. Burdenko has used thrombin in stopping hemorrhage in brain tissues, meningeal vessels and adjacent tissues.

Dr. N. I. Propper-Grashchenkov and his associates have used thrombin as a hemostatic agent in operations on the brain and spinal cord. In all cases he had found that there had been a definite effect on the duration of bleeding from the small vessels of the brain and the tissues of the scalp and spinal cord.

Dr. F. M. Lampert has become an enthusiastic user of thrombin and in a recent article he wrote,

"Already in 1942 I was using thrombin in routine operations, especially on tumors, and have always found it to be a valuable agent for stopping hemorrhage. At present I use thrombin not only during operations (covering the bleeding surfaces of tissues with gauze moistened with thrombin) but I usually finish the operations, after suturing the skin by injecting thrombin into the subcutaneous space and into the tissue cavity by introducing the needle of the syringe into one of the spaces between the sutures. I consider thrombin to be an invaluable preparation which considerably helps to stop hemorrhage and assures complete hemostasis. Thrombin does not produce any untoward action."

Dr. V. K. Trutner, on the basis of numerous operations reported: "In every case the application of thrombin gave good results. Thrombin is a part of our regular practice. It is not contraindicated in the presence of other medical agents or preparations, being entirely compatible with them; it facilitates operation by improving the visualization of anatomic relations and pathologic changes."

Blood products, particularly thrombin have been found by Soviet neuro-surgeons to be of great value in operative work upon the nerves and brain. Dr. N. I. Propper-Grashchenkov said: "In the nerve clinic of the All-Union Institute of Experimental Medicine at Moscow, which serves the seriously wounded in skull, brain, spinal column and spinal cord, since the end of April, 1942, thrombin prepared by V. A. Kudryashov has been used as a hemostatic agent in operations on the brain and spinal cord. In all cases there was a definite effect on the duration of bleeding from the small vessels of the brain and the tissue of the scalp and spinal column."

Soviet physicians have done much with blood. They have developed blood thrombin, a chemical powder effective in stopping bleeding from the most serious wounds. Extracted from blood, it can be sprinkled on the brain to control diffuse bleeding. Because it is a natural substance, there is no danger in leaving it in the body since it is absorbed after an operation.

Fibrinogen is another product derived from blood. A little like nylon, it can be made in the form of sheets, powder, sponges and strings. It has the power of clotting blood and absorbing it, and later being absorbed itself. Fibrinogen sponges are left inside the body without harm. They stop bleeding from serious wounds in an amazingly short space of time.

Red blood cells, an important by-product of plasma production, are made into a paste which speeds healing of old, infected burns, varicose and other ulcers, and extensive granulating wounds.

The use of blood in reviving the dying has been used extensively in the Soviet Union. In one case of a serious wound in which a great deal of blood had been used, injections of blood directly into the heart proved a life-saving measure. Dr. B. I. Iokhveds has been using blood intracardially in severe injuries with excellent results.

Dr. Iokhveds reports: "Intracardiac transfusions of blood, and possibly other substances employing the right as well as the left ventricles, are means which in combination with other standard methods of therapy could prove useful to every physician in the fight for the revival of men dying from shock and collapse due to various causes."

It is quite apparent that injections into the heart must begin almost immediately after the heart has ceased to beat. Dr. Iokhveds commences from eight to ten seconds after clinical death has appeared. In some cases it is possible to get good results even after two to six minutes. In all cases quick action is essential.

Another recent advance in the use of blood as a life-saving measure has been the introduction of autoblood transfusion or blood replacement. It is used in cases where profuse internal bleeding takes place through the rupture of an important artery. In these cases there is no preliminary typing or other blood examination. It is simply a process of taking the escaped blood and putting it back into the patient's veins. This has now become a common practice in the Soviet Union.

The use of incompatible blood is usually avoided under ordinary circumstances. However, Soviet physicians have found that incompatible blood can be used with certain healing effects. Repeated injections of minute doses, five to eight cc., preferably at intervals of three to four days, produces a rather severe reaction. However, not severe enough to threaten life, but sufficiently pronounced to increase the functional activity of the reticuloendothelial system which is concerned with fighting disease. This type of transfusion has been used with pronounced success in the treatment of chronic or recurrent ulcers of the stomach and duodenum and sub-acute septic ulcers.

Perhaps the greatest expert on the blood and its properties in the Soviet Union today is, Dr. Sergei S. Yudin. His interest in the healing qualities of human blood began in 1930.

On March 23, 1930, a young engineer tried to kill himself by cutting the arteries of his elbows. He was rushed to the Skilassovsky Institute, Moscow's largest first aid station, and was brought in nearly dead from shock and loss of blood. An ordinary serum injection failed and no blood donor was available.

Dr. Yudin then made an unprecedented transfusion.

Six hours before, an old man had been brought in dead with a fractured skull. His blood was removed and nearly three quarters of a pint of blood, suitably treated, was injected into the young man's veins. Two days later the would-be suicide left the hospital cured and well.

In time Dr. Yudin learned many interesting things about human blood. He found, for instance, that in sudden, painless death the blood stays liquid in the human veins and will flow out by gravity even twenty-four hours after death. A lingering and painful death has a tendency to thicken the blood

and form blood clots, rendering it unfit for transfusion purposes.

The Soviet government has sanctioned Dr. Yudin's work and it has been thoroughly systematized.

All cases of sudden death which occur among the 3,000,000 population of the Russian capital are rushed to the Skilassovsky Emergency Hospital, where the blood is collected, and if no immediate use for it is available it is stored for future use—after sodium citrate has been added. The blood is kept in refrigerators.

In all traumatic or accident cases blood transfusion is an essential part of the treatment. For this reason Dr. Yudin early during his directorship of the Skilassovsky Institute became interested in the biochemical properties of blood. He learned that there was no difference between blood taken from the living body and that taken from a cadaver. Both could be used with good results.

It was this pioneering work with cadaver blood which did much to establish the widespread use of blood banks. His method is widely used throughout the U.S.S.R. and within the past fourteen years over 8000 transfusions of cadaver blood have been made at the Skilassovsky Institute.

A great deal of fundamental work is being done in the Soviet Union with blood as a curative agent. Its uses are daily being explored in the treatment of all types of diseases and injuries, and some very interesting reports are now coming through.

183 Avenue "O"

MAJOR BAUER SUGGESTS PREVENTIVE MEASURES FOR POSSIBLE ATOMIC EXPLOSION

How an American city should prepare itself in the event of an atom bomb attack was partially answered by Major A. J. Bauer, U. S. Army Medical Corps, at a recent Symposium on Military Epidemiology.

In the first place broad zones of destruction must be considered. These readily fall into three. Zone 1, extending out one mile from the center in which destruction is almost complete. Zone 2, extending from 1 to 2 miles, in which there is serious damage with destruction about 50 percent complete. Zone 3, extending from 2 to 3 miles, in which damage is minor. We can estimate 100 percent casualties in zone 1, almost all fatal. In zone 2, 75 percent of the personnel will be injured, approximately one-half fatally. Zone 3 will produce minor casualties.

Major Bauer suggested a few procedures which must be considered in preparing the general public for recovery if such a multitude of casualties are to be handled.

1. The immunization of the population against tetanus should be considered, due to the large number of burns and mechanical injuries to be expected.

2. Disruption of water supply and sewage disposal systems would suggest immunization against organisms infecting the digestive tract wherever possible along with preparations and instructions in individual water purification.

3. Pretyping the population's blood and devising some method of indicating the individual's type, since the demand for blood transfusions will be great.

Major Bauer reports that considerable work is being done in the use of drugs as a protection against radiation. So far these experiments have not been conclusive, but future knowledge may well suggest the advisability of incorporating some substance in a common food such as bread.

One important preparatory procedure usually ignored is the psychological preparation of the general public for such an attack. The major believes this can be best handled by keeping the public informed as to the possibilities and to our capabilities to handle such disasters. Any false complacency through over-optimism will lead to a severe psychological shock in case of a disaster. On the other hand over-emphasis of the devastation produced may lead to panic.

Since light colored loose clothing furnishes good protection against flash burns, the cooperation of clothing designers may be important in our plans for preparation.

The special problems involved in handling casualties on the scale expected in an atom bomb attack will center on the treatment of large numbers of patients. Tremendous supplies of drugs, dressings, etc. will be required. One item which will be used in vast quantities will be whole blood. The number of blood transfusions required will be fantastic. The number of blood typings necessary will require some plan whereby laymen trained in blood typing can be utilized. In all probability, laymen trained in taking and administering blood will be used to carry out the transfusing operation.

Touching on the special problems caused by radioactivity, Major Bauer explained that if the bomb is detonated high in the air residual radioactivity will not be a problem. Casualties from immediate radiation have in the past comprised between 15 percent and 20 percent of the cases treated. However a city prepared for an atom bomb attack by protecting the population with sturdy buildings may well furnish us with a larger percentage of patients suffering from radiation illness. Persons behind large thickness of concrete may escape injury from flying materials or even gamma radiation, only to receive serious doses of neutrons.

The surer way of course for preventing such an attack lies in our national policy, however, city planning in handling such an emergency should not be overlooked.

Editorials

The Need For More Doctors

Governor Dewey's Temporary Commission on, "The Need for a State University;" rendered a report from its Research Staff, which was published in the newspapers last January. The Commission is headed by Owen D. Young, retired industrialist, assisted by some 30 members. It recommends to the Governor and Legislature, that a State University be established as soon as possible. Up to now the University of the State of New York is a title only, and covers chiefly the work of the State Board of Regents. The taking over of Syracuse University by purchase, if possible, has been under discussion. This would be merely a nucleus for expansion into a much larger institution.

The Commission recommends the establishment of two new medical schools, one in New York City; the other up-state. These would have departments for the teaching of dentistry, nursing, public health, laboratory techniques, veterinary medicine etc.

Dr. Willard R. Rappleye, Dean of the College of Physicians and Surgeons, Columbia University, appeared as an "expert witness" before the Commission on October 20, 1947, and he has kindly handed us an abstract of his comments at the "hearing".

First, adequate medical care for the entire population of this state must be provided by whatever means seems most appropriate, but not by so-called "socialized medicine."

Second, proper medical care depends largely upon proper distribution of physicians, and this, in turn, upon the doctor's ability to find hospital connections, laboratory facilities, etc. In due time certain legislation to this end will be passed. Just now the Hill-Burton bill is before the U. S. Senate for consideration which discusses the best means of making good medical care available to rural or remote communities.

A third aspect of medical care is its financial cost. There must be devised some plan of insurance, or perhaps there can be extended use of the best features of the several plans now in operation, particularly those having pre-payment procedures.

The demand for specialization has grown-up out of the enormous expansion of medical science which makes it impossible for any one physician to be well versed in all fields. Group practice seems to be the answer to this problem wherein the patient is examined and studied by a number of coordinating doctors. This is not new. It seems to have been set up by "the Mayos" many years ago, and is still operating in Rochester, Minn. There have been many imitations, some of them highly successful.

Something more than "medical care for the entire family" is essential; namely, *prevention of disease through education.* This should be worked out from medical centers.

The Dean notes that there are some 195,900 doctors in the United States—a ratio of one to 719 persons, a figure set by the Selective Service in 1947. New York State has about 28,000 physicians, a ratio of one to 511. This is based on statistics for 1940. In New York City, the ratio was one to 410 persons. Various estimates have stated that a ratio of one doctor to 1,000 persons can be satisfactory.

The Health Insurance Plan, after thorough study, gives one doctor to 800 individuals as a reasonable ratio. From all this, one may conclude that there are enough licensed physicians in N. Y. State to give full, effective care to its population. *Distribution* of these, however, still remains unequalized.

Shortages in such specialties as psychiatry, pediatrics, public health, and in certain laboratory personnel are observed. Such opportunities should be called to the attention of those who are casting about for a career in medicine and allied fields. Many physicians released from war service are not yet orientated. They are working in hospitals or as *locum tenens,* to the number of some 20,000! Refresher courses and special study in selected fields are badly needed by these men. In the service, some lost contact with clinical medicine because of administrative and "paper work."

The Committee's Research Staff states that of the 28,000 physicians in N. Y. State, 13,000, or about one-half, were educated outside of this commonwealth. To partially offset this, some 6,000 men trained in N. Y. are practicing in other states.

Statistics may assuage the anxiety of some persons who are worrying about a scarcity of doctors in the future. One cannot cite all the figures, but in the five-year period, 1937 to 1942, the "net increase" in these United States was 6,920. For a second period, 1942 to 1947 this increase was 16,442! And these were "war years." The estimated net increase for 1947 was 3,601!

Selective Service studies indicate that there will be 209,300 doctors in the U. S. in 1950—that is about one to 695 persons. For 1947-1948, medical graduates "from approved schools" will number about 5,716. This does not include output from new schools or foreign graduates who shall be licensed.

In the making are four new medical schools, Alabama, Washington state, California, and Utah. Moreover, old schools are being "revamped" in Mississippi, South Dakota, North Dakota, North Carolina, Missouri, and West Virginia. Under discussion are new schools in Florida, Montana, Connecticut, New Jersey, Maine and Massachusetts.

Excess of physicians, if any, will make for poorer quality of service, and overstressing of the economic urge. There are 70 approved medical schools in the U. S. Entering classes number about 6,257, and the individuals have been picked from 18,000 applicants! It would be well to have this fact scattered abroad so that prospective students of medicine may consider what obstacles there are, and why!

During 1946, at the P. and S. in N. Y., there were 592 applicants from whom only 48 could be chosen, all of whom lived in this city. From N. Y. State, outside of this city, 149 applied, but *only* 11 *could be accepted!* From other states 813 applied of whom 52 could be matriculated. The totals showed 1,554 applicants and 111 acceptances. The aim of the authorities at Columbia's P. and S. is to accept as many qualified students as can be well taught, regardless of race, color, national origin or domicile. A cross section is the aim, based upon a promise of competent, ethical medical service after graduation.

All of our city medical schools combined cannot take on more than 800 students in their first year. It is straining a point to admit even one-third of the applicants. Based on numbers demanding admission 10 additional medical schools in N. Y. State would be required, and then not more than 100 could be taken in for first year instruction. The great "pressure from below" is making the work of Deans and other authorities very distasteful at times. Special privilege is too often demanded by many Americans. It is a national trait, and not an admirable one.

Room must also be made for graduate students to keep the rank and file of physicians abreast of the times. At Columbia, postgraduate courses were given to 2,243 physicians during the past year! The group in Medical Center numbers about 370.

In the words of the Dean Rappleye however, "dilution of standards of medical education through expansion of enrollments would be detrimental to the public interest . . . through lowering standards." Educating youth in medicine is an expensive business, and existing schools need financial aid far above and beyond what the student can pay in tuition fees. Students can do little in the way of self help when indigent, because of the exactions of their courses. Time runs out on them. In conclusion, Dean Rappleye says:

"The plea to the Commission is that the State of New York interest itself in producing not more but better physicians to provide medical services of adequate standards for the people of this State."

Ptomaine Poisoning is Compensable Injury in Ohio

Ptomaine poisoning unexpectedly experienced by an employee from eating tainted food on a particular occasion as an incident of his employment (in this case in a cafeteria) constituted an "injury" compensible under the Ohio Workmen's Compensation Act.

"Injury" as used in that Act and in the Ohio Constitution comprehends "a physical or traumatic damage or harm, incidental in its character in the sense of being the result of a sudden mishap occurring by chance, unexpectedly and not in the usual course of events, at a particular time and place." It is also defined as "any direct, immediate and violent derangement of the bodily functions, or degenerative changes of tissue, caused by the accidental inhalation of poisonous gases, or by the accidental eating or drinking of poisonous substances on a specific occasion, in the course of the employment," which will constitute a compensable injury within the meaning of the Compensation Act.

In Ohio, bodily harm occurring to a workman by the sudden unexpected and unforeseen inhalation of noxious or poisonous gases or fumes, or by contact with a poisonous substance, is a compensable injury within the meaning of the Act, for which an award will be made on the basis of the injury and not for the disability or disease which may be attributable thereto.

This being so, the Ohio Supreme Court sees no reason why a prompt and severe disturbance of the normal bodily processes produced by the

consumption of tainted food on a particular occasion should not be placed in the same category. Lebek vs. Cleveland Graphite Bronze Co., 76 N. E. 2d 892.

Hay Fever

In hay fever, paroxysmal or vasomotor rhinorrhea fits of sneezing are accompanied by a profuse watery nasal discharge irritation of the nasal and conjunctival mucosa nasal obstruction, and sometimes marked depression even prostration. The rapidity with which an attack comes and goes is sufficient to distinguish it from the ordinary cold. Hay fever is due to a specific susceptibility to a proteid substance contained in the pollen of certain grasses.

C. Blackley of Manchester, England, in 1870 or thereabouts published an article "Experimental Researches on the Causes and Nature of Catarrhus Astivus". He showed that susceptible persons developed hay fever rapidly when the nares, larynx, conjunctivae, tongue and fauces were exposed to the pollens of a large number of plants. He came to the conclusion that the pollen of certain grasses were the most potent, especially that of the common rye. He listed fifteen families of plants of which the pollen produces hay fever, and found that in June the number of air borne pollen grains was at a maximum.

Up to 1916 this problem was allowed to rest or almost so, but in that year it was revived with true American vigor by W. Scheppegrel in this country and since then it has been developed by making systematic surveys of the atmospheric pollen in many of the states.

Roger P. Woodhouse (R. P. Woodhouse "Hay Fever Plants" 1945) has named a small number of families of plants grouped in two sets which he regards as especially toxic in producing hay fever. He agrees with Blackley in concluding that the grasses are most toxic and that since their toxicities appear to be of a similar type it is necessary to use one pollen only for medicinal purposes and timothy or cat's tail grass Phleum pratense is thought to be the most suitable.

Hay fever subjects are affected by minute quantities of toxin. Ordinary people are completely immune. Perhaps the determining factors of susceptability are heightened irritability of the nervous system, occasionally some intranasal abnormality which increases the sensitiveness. Neronic tonics, strychnine, arsenic and balenan are indicated. Hay fever patients are naturally better in a locality as free as possible from pollen: some are comparatively well at the seaside, others only on board ship.

An up-to-date treatment of hay fever is by an immunizing solution known as pollen vaccine or allergen prepared from the pollen of Phleum pratense or from a mixture of pollens from a few selected grasses as Phleum pratense, Dactylis glomerata, alopecurus pratensis, Anthroxanthum adoratum.

Sometimes benefit results from the removal of a nasal abnormality, a polypus or a sharp spur impinging on the turbinal. True hay fever sufferers may have their susceptibility to pollen lessened by innoculation with diluted extract of pollen and as said before immunization may prove successful.

Man and The Machine

This is the machine age, but at the same time man should be master of the machine and not its slave or even its servant.

Perhaps man's life is being disintegrated and if he gives way to its dominance may become wholly so and thus lose his individualism. Machine-made articles are not as good as man's handicraft and man does not live by machines alone and the power impulse.

Granted that machines have come to stay it should be understood that they are not and never will be a complete substitute for human needs many of which are frustrated by overemphasis on the quantitative and mechanical. The gulf or gap which exists between those parts of life which have become controlled by mechanical power and those parts which lie outside its scope constitutes one of the great problems of contemporary society.

It seems that human personality is at stake and cannot be saved unless the social control in which man has to act and to survive is given adequate attention. It is a question too from the general health point of view whether the coming of the machine and its entrance on a wide scale into every phase of human endeavor has been beneficial or otherwise. In any event its employment must be controlled wisely not only in the interests of the workers themselves but for the good of the whole community.

It is a matter which calls for consideration from the health point of view and steps should be taken to safeguard individuals in all countries and especially in those in which machine power is employed most largely.

Group Practice—U. S. A. Model

The United States Public Health Service has long been interested in the study of group practice among physicians in this country. In 1940, the American Medical Association published a monograph on the subject through its Bureau of Medical Economics. In December 1946, the journal, *Medical Economics* made a survey upon the basis of a questionnaire. The A.M.A. did not include either industrial groups or those which had been "excluded from organized medicine."

Dr. G. Halsey Hunt, Senior Surgeon, U. S. Public Health Service, and Marcus S. Goldstein, Washington D. C. published a "report" of a questionnaire which aimed to survey all listed groups during 1946 in the Journal of. the A.M.A. for December 6th, 1947. It is number III of a series which will later come out in book form. By combining lists from various sources, they were able to send a questionnaire to 981 addresses. Answers were received from 78.9 percent—a very good showing.

It is necessary in a study of this kind to begin with a definition of what group practice is. It was decided to include only those which consisted of three or more physicians. As to "quality," these authors include industrial companies, hospitals, consumer cooperatives and individual owners,- all who work together by pooling their medical skills.

Specialty groups, however, are left out. There were 36 of them, each with one specialty such as ophthalmology, radiology, and otorhinolaryngology, "because such groups represent a quantitative rather than a qualitative increase over the work of an individual practitioner." There are also "disbanded groups" which amount to something between 19.5 and 32 percent since 1940.

The group size varies between seven and eleven members, but all physicians are not "full time" workers. Small communities, say those below 25,000 population, seem to have a greater number of their physicians working together. This is certainly a worthy step towards co-fraternity and conserving of common interests.

Individual physicians practicing in small towns, have suffered from minor jealousies because the public is wont to "try" first one physician then another regardless of ethics or personalities. It is indisputable that individuals and communities which are made up from them, are more likely to have their best interests conserved through co-operation. That is true in fields remote from medicine also.

Many of the small groups in areas distant from great cities, have their own hospital. This might be a disadvantage for "outsiders" who for various reasons cannot get into a group, but their number must be small. They will usually be unable to compete in general lay-out of offices, equipment and "help", with the organized group, but this is inevitable,—perhaps an insoluble problem.

Since "administration" or "executive" functions should not belong to the busy practicing physician, it is pleasant to note that many groups have a director or manager on full time, just as hospitals in large centers have "superintendents" and non-medical heads of departments. The number of nurses, that is to say, graduate nurses seems to be quite large in view of the "shortage". The figure given is 88 percent with "one or more graduate nurses working in the clinic."

Approximately there was one such nurse to every two full time physicians. No doubt, some groups make use of "practical nurses" or "attendants" whom they train to do routine duty in laboratory and ward work.

The financial division which is such an important part of any "going concern" seems to have embraced the "prepayment" idea, but it is not popular in the New England states. The North Central states have most medical groups, but the least prepayment plans, while the far West embraces the idea quite completely. Large cities contain most groups with the prepayment plans. In general "a medical prepayment plan was operated by about 15 percent of the groups." It would be interesting to know how "collections" stand under the varying systems.

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The parasitic affection, Nocardiosis, which is somewhat like sctinomycosis, has taken its name practically intact from Edmond Isidore Nocard (1850-1903). Nocard was one of the collaborators of Pasteur. He was professor of contagious diseases among animals, a member of the Legion of Honor, and an officer in 1892.

LETTER FROM BRITAIN

(From Our Own Correspondent)

Britains' Medical State

Britain, as the rest of the world, continues to be in a highly unsettled state and although affairs here are progressing it is difficult to say whether it is healthy progress—that is advance in the right direction or partly retrogression.

Perhaps it is something of both and the medical profession shares in whatever course is taken. A matter which concerns all classes of the community and the profession closely is food. Recently, there has been a great deal of discussion of this subject and opinions differ among medical men as to the true situation in this respect. Some hold that malnutrition is widespread compared with pre-war days while others contend that on the whole people are better fed than in those times. Probably more people, and children in particular, are nourished better.

Dr. Edith Summerskill, a member of the Government, in reply to a question in the House of Commons as to calories available for industrial workers, said, that assuming that a workman takes five meals and five hot beverages at his canteen daily, the average caloric value of his basic rations, including points and sweets and the rations provided through the canteen, would be 3370 calories a head daily for a miner and 2530-2630 for an industrial worker, according to the type of canteen available.

Agricultural workers' rations provide 2,600 calories a head daily. Other workers get amounts which depend upon the nature of their work and the provision of the canteen.

The above shows only the amount of food to be had at canteens for several classes of workers, although many farm laborers have not the opportunity to make use of canteens and this gives but a partial estimate of the calories provided generally. The food required by workers depends not only on the type of work but on the individual, the personal equation. However, the subject is involved and the doctors do not appear to be agreed with regard to the general condition of the population living on the prescribed diets.

Cross of the Chevalier Conferred on Dr. E. Ashworth Underwood

The President of the French Republic has conferred the Cross of the Legion of Honor on Dr. E. Ashworth Underwood, director of the Wellcome Historical Medical Museum.

At a general Assembly of the International Society of Surgery, Grey Turner professor was elected as the next president and the date and place of the next meeting were provisionally arranged for October 1949 at New Orleans.

London Medical Exhibition

This annual exhibition held in the Royal Horticultural Hall, Westminster, near the Abbey and nearer to the Catholic Cathedral was not so splendid as that of last year. However there were several interesting and novel specialties.

As for surgical instruments, although there is a great demand for these, many manufacturers are finding it difficult to keep up with orders due partly to overseas exports but owing mostly to scarcity of skilled labor. Of course, too, the making of surgical instruments requires special training while the remuneration for such work is not so good as that for less skilled forms of employment, a potent reason for scarcity of workers.

Nobel Prize for Chemistry

Sir Robert Robinson, F. R. S. has been awarded the Nobel Prize for Chemistry. In a recent issue of the *Lancet,* is an annotation, part of which runs as follows: "It is probably fair to say that he has made more positive contributions to synthetic organic chemistry than anyone living or dead."

Chloroform Centenary

James Simpson's discovery of chloroform as an anesthetic was celebrated last November. To mark this centenary the honorary degree of LL. D. was conferred on Dr. H. W. Featherstone, founder and president of the British Association of Anesthetists and on Sheriff I. B. Simpson, a grand nephew of the discoverer. At the celebration a lecture was given by Dr. Douglas Guthrie.

Legacies to the Harveian Society, London

The late Sir Norman Gray Hill, killed in Sicily in 1944 while serving with the R. A. M. C., has willed one half of the residue of his estate to this society.

London Association of Medical Women's Association

A hospital has been opened in London recently and has been appropriately named the Marie Curie Hospital. A hospital for the treatment of women with cancer, founded by the London Association of Medical Women's Federation was destroyed by a bomb in 1944 and the present building in its place was opened in May 1946 with eleven beds. Now there are fifty to sixty beds and it is hoped that a new hospital will be built on the old site equipped with one hundred beds. An appeal was launched in 1944 after the destruction by bombing of the original hospital and £120,000 ($600,000) or there-abouts has been received. It is proposed not only to build and equip a new thoroughly up-to-date hospital but to provide accomodation in two houses to be erected for nurses and domestic staff, also a house for ambulatory and convalescent patients.

News Items

Drug List Revised by VA.—Veterans Administration distributed a revised list of approved "decentralized-contract" drug items to pharmacists in its hospitals, centers and regional offices and at the request of physicians, VA pharmacists in the field can obtain items on the decentralized contract list directly from manufacturers. Contracts for the drugs—establishing price schedules but not quantities—are arranged in advance by the VA Central Office in Washington, D. C.

Manufacturers desiring to obtain VA approval for their products, and thereby become eligible for decentralized contract distribution should follow these steps:

1. Inform pharmacists and physicians in VA field stations of their drugs and preparations and, at the same time, ask VA physicians to send statements to Central Office mentioning their interest in the new items. Manufacturers should not submit samples at this stage.

2. After a number of statements from VA physicians reach Central Office, VA will ask manufacturers for technical data about their products, including quantitative formulas, clinical evidence of usefulness, and manufacturing facilities.

N. Y. U. Sponsors George Wallace Memorial Committee.—New York University Alumni are seeking funds to perpetuate the memory of the late Dr. George Barclay Wallace, for 44 years the professor of pharmacology at the institution's College of Medicine and a widely-known research authority who played a leading role in the formation of many professional societies.

The George Wallace Memorial Committee would like to raise $250,000 to build in his name the new pharmacological laboratories that will be installed in the New York University—Bellevue Medical Center.

Friends and associates of Dr. Wallace are being enlisted to volunteer as members of the committee which is headed by Dr. Luther B. MacKenzie, former member of the NYU faculty. Headquarters of the committee have been established in Room 300, 141 Broadway, New York City.

Dr. Wallace was a popular teacher and active in research. His findings relating to alcohol, caffeine, anaesthesia, volatile oils, cyanides and many similar subjects won special attention.

$60,000 Raised at Jewish Appeal Dinner.—More than $60,000 was raised for the United Jewish Appeal at the annual UJA dinner of 250 physicians at the Queens County Medical Society. The total quota has been set at $100,000.

"With a start so auspicious, I believe we can now look forward, not only to surpassing all our previous records on behalf of the United Jewish Appeal, but to surpassing the record quota we have set for ourselves." chairman Dr. Rubin declared.

Philip Whitman, vice chairman of the Greater New York UJA campaign, and national chairman of the Hebrew University-Medical School Building Campaign, told the audience that "Our brethren in Europe and in Palestine can live just so long without enough food, enough shelter, enough hope. If our efforts do not suffice this year, everything we have done before is cancelled out."

The United Jewish Appeal of Greater New York is the sole fund-raising agency in the metropolitan area for the United Palestine Appeal; the Joint Distribution Committee (Including ORT); the United Service for New Americans; the Joint Defense Appeal of the American Jewish Committee and the Anti-Defamation League of the B'nai B'rith; the American Jewish Congress; the National Jewish Welfare Board, and the Jewish Telegraphic Agency.

The Paras Give the Quads a "Helping Hand".—The "Paras" who are VA's paraplegics are helping the "quads" (quadriplegics) in many Veterans Administration hospitals these days by helping them get through their meals more satisfactorily. Now in many such hospitals, the "paras" accompany the "quads" to dining rooms, and assist them by cutting their meat, pouring milk or coffee and helping them in other small ways. This is a most heartwarming arrangement for after long months of hospitalization, the diet of any patient becomes a problem and eating from hospital trays in rooms becomes dreadfully monotonous.

Although the "quads" lack precision due to paralysis from the neck down, they are being taught to utilize their movements to the best possible advantage. The mechanics of eating have been made easier for them by wedging the eating utensils between their index, second and third fingers, using specially-built braces into which utensils are secured, or using utensils with built-up handles.

Industrial Conference on Alcoholism Makes Booklet Available.—The entire proceedings of the first Industrial Conference on Alcoholism, recently held in Chicago, have been printed in booklet form and are available for $1.00 per copy. Orders may be sent to Industrial Conference on Alcoholism, 8 South Dearborn Street, Chicago.

This literature includes an address by a member of Alcoholics Anonymous and a printed discussion on, "Action in Industry on Alcoholism." Participants of the discussion comprised of Dr. Andrew C. Ivy, vice president of the University of Illinois; Bruce Ashby, Oscar Mayer & Co., Myrna Borcelon, secretary C. I. O. Community Services Committee; Dr. David B. Rotman, chief psychiatrist, Municipal Court of Chicago; and Percy Shostac, executive director, Chicago Industrial Health Plan.

Life Expectancy of Diabetic Increased.—"The life expectancy of diabetics has been constantly increasing over the last twenty-five years and probably will continue to gain," Herbert Yahraes declares in *Good News About Diabetes*, a 32 page Public Affairs Pamphlet out recently.

The average 10-year-old diabetic can expect to see fifty-five; the 30-year-old can expect to live sixty-plus; the 50-year-old to sixty-six; and the 60-year-old to more than seventy.

This good news about an ailment which ranks eighth among all causes of death in the United States comes at a time when all indications show that there are about twice as many diabetics as anyone had suspected. The probability is, according to the pamphlet, that we have a diabetic population of about two million. "Almost half of these people don't know that they have diabetes and many of them don't even know they are sick," Mr. Yahraes points out.

"Of persons who develop the disease in childhood," Mr. Yahraes states, "perhaps 50 percent can point to other cases in the family. If all the facts were known, it might be possible to show that heredity plays a part in every case."

The effectiveness of the modern treatment of diabetes leads Mr. Yahraes to call the "unknown million" diabetics the "hopeful million." All physicians agree that a well-regulated life is more essential than in the treatment of any other illness. There is a need for a nice balance among insulin, diet and exercise, and the diabetic's schedule should be pretty much the same one day as another.

To establish the point that diabetics can lead full lives, the pamphlet cites a group of 653 patients between the ages of 20 and 65 who returned for treatment or check-up. Two-thirds of the men were able to work full time and most of the others were able to work two-thirds of the time. Only five percent were disabled. Of the women, half reported little or no time lost from their usual activities, and only six percent were disabled.

Insurance Companies Give Over Half Million for Heart Disease Research.—U. S. and Canadian life insurance companies will give more than a half million dollars for research in heart disease during 1948. The awards raise to $1,800,000 the total research subsidy provided through the Fund since it was organized in December, 1945.

Thirty-one hospitals, medical colleges and special research clinics in eighteen states and Canada will share $484,790 in the grants announced and fourteen individual doctors will receive $52,600 in postgraduate fellowships. All research is confined to diseases of the heart, arteries and other blood vessels which account every year for more than 45 percent of all deaths at all ages in the United States and more than half the deaths at ages over forty-five.

The Fund is supported by 149 life insurance companies and is administered through a board of directors representing the life insurance business and an advisory council of medical research experts, the latter headed by Dr. Francis G. Blake, Sterling Professor of Medicine at Yale. Scientific director of the Fund is Dr. Francis R. Dieuaide, clinical professor of medicine on the staff of the College of Physicians and Surgeons, Columbia University.

$8,000,000 Set Goal for Greater New York Fund 1948 Campaign.—The Greater New York Fund anticipates an $8,000,000 intake in its 1948 campaign which is almost double the amount raised last year. In announcing the increased goal, Henry C. Alexander, campaign chairman outlined the financial situation confronting the agencies this year as follows:

1. Estimated cost of continuing present services, $140,000,000.
2. Anticipated income from fees and similar sources, $99,000,000.
3. Needed in contributions, $41,000,000.

Mr. Alexander said that over the ten year life of the fund, business contributions usually have been about 18 to 20 percent of the need for gifts. The $8,000,000 goal is approximately 20 percent of the total gifts needed this year.

The $41,000,000 contribution need is substantially more than last year's need of $34,408,000, and is almost twice as much as the need for gifts in 1938.

The campaign chairman believes that this goal is reasonable due to the following reasons; "In the first place consultation with more than 100 business leaders indicates that most corporations want to do their proper share for local health and charitable causes and that business as a whole will readily understand why operating expenses have mounted so tremendously in recent years.

"Secondly, study of business giving to similar causes in other American cities shows that it is not out of line on a percentage basis with what business contributes elsewhere. In fact, corporations alone contribute from 3 to 40 percent of hospital, health and welfare needs in many other communities.

"And finally, business contributions totaling $8,000,000 will represent no more than a return to the 18 to 20 percent support of local causes that business provided in response to the Fund's first nine campaigns."

Alexander itemized the estimated hospital, health and welfare expenditures included in the $140,000,000 over-all financial operating costs as:

1. Hospitals and medical care: $90,000,000.
2. Child welfare services: $19,000,000.
3. Services to families and adults: $11,000,000.
4. Neighborhood and group activities: $11,000,000.
5. Home nursing and health: $3,500,000.
6. Homes for the aged: $3,000,000.
7. Coordinating services: $2,500,000.

Book Reviews

Group Therapy

The Practise of Group Therapy. Edited by S. R. SLAVSON. Foreword by NOLAN D. C. LEWIS, M. D. New York, N. Y.: International Universities Press, 1948. Pp. 271. Price $5.00.

A number of patients meet under some technical supervision and discuss as freely as they can the problems of themselves and their ailments. The amazing thing is the good result reported for difficult to remedy conditions as asthma, angio neurotic edema and so on. Such talking it over with people in the same or similar boat actually improves the condition of all.

After all, it was a principle in education once—pupils learn from each other. *The Practice of Group Therapy* is a compilation of points of view of a dozen super experts. The editor has smoothed the edges, removed repetitious material and pointed up the job.

All physicians must be more aware of the possibilities of group therapy in the field of neurotic children and psychoneurotic children. The counter indications for this type of study and treatment are explored, and all candidates for inclusion must first be screened.

With time, more reports of group therapy will appear and evaluation will be feasible.

Since we are living in such a hectic century in which the human being has practically been replaced by the machine, the natural attitude in solving a problem has been pushed aside in favor of the textbook approach. Various experiences, setbacks and emotional upsets that everyone witnesses throughout his life are "thrashed out" more satisfactorily when they are placed, unclothed on common ground. Through group consultation, impossible strains are neatly ironed out.

Child Guidance

Practical Child Guidance and Mental Hygiene. By SAMUEL KAHN, M. D., Ph. D., adjunct professor of Psychology and Psychiatry, Long Island University; GRACE KIRSTEN, B. A., formerly with New York City Department of Education and lecturer on Child Guidance; MAY ELISH MARCH, B. A., M. A., formerly teacher in the New York City High Schools. Boston, Mass.: Meador Publishing Co., 1947. Pp. 285. Price $4.00.

This booklet on child guidance in question and answer form is intended for those interested in the development of normal, wholesome individuals of good personality and fine character.

The future of every individual begins in the home. Parents who for many years have understood and practiced good child guidance in the home, are directly responsible for the happiness and success of their children. Should parents fail to understand or fail to practice these principles, the probabilities are that courts and jails, hospitals, and sickness, inefficiency or unhappiness will result.

Society is responsible for each individual, just as each individual is responsible to society. The world will be better off when more people become child guidance-minded.

Many of the physical, mental and emotional failures which we see about us may be traced back to a widespread unawareness of an effective and important system of child guidance. Many people consider themselves self-appointed authorities only because they were once children or because they have produced children. They refuse firmly to change whatever ideas they may have on the subject. Other people acquire all kinds of misinformation and are not aware of their ignorance. If they vaguely sense the lack, they do not know where to go for proper information. Some reduce the exceedingly complex problem of child guidance to "common sense" and thus glibly explain away their failure to do emotional and psychological justice to children. The book offers authentic answers to questions raised by parents daily. It should be in constant use by inquisitive mothers.

Behaviorism

Psychobiology and Psychiatry. A Textbook of Normal and Abnormal Human Behavior. By WENDELL MUNCIE, M. D., practicing psychiatrist; chairman, Medical Advisory Board, Seton Institute, Baltimore, Md.; associate professor of psychiatry, Johns Hopkins University; consultant in psychiatry, U. S. V. A. Second edition. 70 illustrations. St. Louis, Mo.: The C. V. Mosby Co., 1948. Pp. 620. Price $9.00.

Currently there is a growing interest in behaviorism if one may judge by the number of books concerning it or closely allied subjects. Many of them revolve around sex as the central problem, which is certainly correct in many instances. In this book, however, Dr. Muncie takes a broader and deeper view. His horizon lies far beyond the immediate viewpoint, since he is concerned with "the whole of man and his setting and not the parts of a man" as Dr. Adolf Meyer wrote in his preface to the first edition.

As a disciple of Meyer, the author has been rooted and grounded in clinical psychiatry,—"the man at your elbow view." Experiences in two World Wars have brought us problems of the brain and of the central nervous system and also those referable to the sympathetic and parasympathetic systems. We now have satisfactory recourse to psychoanalysis and shock therapy in freeing the mind from horrors which have left scars upon the deeper subliminal self, and have effected personality changes, mostly undesirable ones.

Recently, some newspapers have been reporting "marvelous cures of insanity through brain operations." Muncie discusses this, and credits Egas Munoz of Portugal with having done the first case in 1936. It was known as a "blind operation."

Performed under local anesthesia, the frontal lobes were exposed, bilaterally, and a scalpel was insaid to have released the patient from anxiety neuroses and incapacitating obsessions. Intellectual troduced to cut the thalamofrontal radiation, and the callosal and fasciculus cinguli paths. Results were

function was not disturbed. The procedure was studied and revised by W. J. Freeman and J. W. Watts in a book published by Charles C. Thomas in 1942.

These surgeons do an "open operation," remove as much of the cortex as is required to see the anterior ventricular horn, and the white substance surrounding the ventricle is severed by a blunt instrument. Bleeding is controlled by electrocautery. It should be done only in limited selected cases where "everything else has been tried." Rehabilitation is long, arduous, and calls for total change of environment and "interests."

Physical Medicine Annual

1947 Year Book of Physical Medicine. Edited by Richard Kovacs, M. D., professor of physical medicine, New York Polyclinic Medical School and Hospital; attending physical therapist, Manhattan State, Harlem Valley State, Columbus and West Side Hospitals; senior consultant in physical medicine and medical rehabilitation, Veterans' Administration. Illustrated. Chicago, Ill.: Year Book Publishers, Inc., 1948. Pp. 432. Price $3.75.

This is another issue of the well-known series which has been coming from the Press annually these many years past. It is a pertinent and practical text and contains many "figures" to illustrate and elucidate points which need emphasis.

An unique method of presentation is the question and answer set-up. The jacket has many such questions followed by, "See page so-and-so." For example, in apparent death from electric shock, name the procedure which may bring about immediate recovery? When should one not "manipulate" in arthritis? The function of ionized calcium? In what type of patient is the full cold pack indicated?

Few among us are sufficiently well read or have had the "experience" to answer such questions correctly, and yet they are altogether fair, and constitute the kind of knowledge one needs in daily practice. It is a pleasure to commend this little book.

Malariology

Practical Malariology. Prepared under the auspices of the division of medical sciences of the National Research Council. By Paul F. Russell, M. D., colonel, parasitology, division, the Army Medical School; Luther S. West, Ph. D., head of the biology department, Northern Michigan College of Education; and Reginald D. Manwell, Sc. D., professor of zoology, Syracuse University. Foreword by Raymond B. Fosdick, president of the Rockefeller Foundation. 238 illustrations, 8 in color. Philadelphia and London: W. B. Saunders Co., 1946. Pp. xix + 684. Price $8.00.

It was many, many years before the *cause* of malaria was even remotely understood, and nobody seems to have thought that mosquitoes had anything to do with "chills and fever" until the time-honored work of Charles Louis Alphonse Laveran (1845-1922), a French Army surgeon who, while stationed in Algeria, saw what he called *Oscillaria malariae*, a parasite in a wet smear of fresh human blood. This was in 1880, the result of two years of clinical research and study. In 1882, Richard also at work in Algeria, confirmed Laveran's findings, but these were not accepted until Marchiafava and Celli in Italy sketched "the cycle" and gave to the organism the name *Plasmodium*. By that time the word malaria meaning bad air had thoroughly entrenched itself in medical literature where it shall in all probability always remain a misnomer.

The varying types of symptoms, or more particularly the day of sudden attack, gave the names *quotidian* (daily), *tertian* (every other day), *quartan* (an interval between attacks of two days), and *remittent* (a remission only between attacks). There is also a *dumb* or *masked ague*.

Our South American neighbors first used the bark of the cinchona tree, insofar as we know, against the *Plasmodium malariae*. This bark contains some 20 alkaloids of which the most important are: quinine and quinidine, cinchonidine and cinchonine. Variations such as plasmochin and atabrine are in current favor. All of these are protoplasmic poisons, which explains their value.

No matter how given whether via the muscles, under the skin, via the rectum, blood quinine concentrations seldom exceed 1 to 100,000, and in no case is it strong enough to *kill* the Plasmodium outright. P. vivax in blood in a test tube in 1 to 5000 concentration incubated for 24 hours still remains infectious. We do not have in quinine nor any derivative a plasmodicide. Moreover, when we force quinine treatment we may only make the organism quinine resistant or quinine-fast. This means that we still have a long way to go before we can "conquer" malaria, but there is no doubt that we shall do so ultimately. Such research as is here reported will do much to that end.

Psychiatry

Practical Clinical Psychiatry. By Edward A. Strecker; Franklin A. Ebaugh; Jack R. Ewalt. Section on Psychopathological Problems by Leo Kanner. Sixth edition. Philadelphia, Pa.: The Blakiston Co., 1947. Pp. 476. Price not specified.

A large field is covered in a small volume. The war brought in clear focus the shortage of psychiatrically trained personnel. Attempts have been made to effect short cuts of various kinds for the partial treatment of the more common neuropsychiatric cases.

The war brought out a great many of these short cuts. How ideal they are is subject to question but it was a matter of urgent necessity. Too few psychiatrists and too many psychoneurotics. Our present day accelerated progress produces neurotics faster than we can cure them.

There are many other interesting new developments set forth in this book, but from our point of view this is one of the most important.

Clinical Neurology

A Textbook of Clinical Neurology. With An Introduction to the History of Neurology. By Israel S. Wechsler, M. D., clinical professor of neurology, Columbia University, N. Y.; neurologist, The Mt. Sinai Hospital; consulting neurologist, Montefiore Hospital and Rockland State Hospital, N. Y. Sixth Edition. 162 illustrations. Philadelphia and London: W. B. Saunders Co., 1947. Pp. 829. Price $8.50.

Enough progress has been made in the past four

years since the previous edition of this textbook to justify a revision and a new edition. There are obstacles in compiling a textbook on neurology and keeping it within the limits of less than 900 pages. As much could be written on any one of the minor subdivisions.

Nevertheless, Wechsler has managed to cover the field and present the salient, basic aspects of the disorders and diseases commonly labeled neurological and covered the ground sufficiently to enable the student to have a working basic knowledge of the subject discussed.

There are no fancy trimmings or theories presented, just the hard-boiled basic essentials, presented in a logical sequence. As a fundamental outline this is a sound book.

Early Ambulation Validity

Early Ambulation. Related Procedures in Surgical Management. By Daniel J. Leithauser, M. D., chief of surgery, St. Joseph Mercy Hospital, Detroit, Mich. Illustrated. Springfield, Ill.: Charles C. Thomas, 1946. Pp. xi + 232. Price $4.50.

Fifty years ago, Emil Ries of Chicago, was rather abruptly made to realize that some of our ideas about the length of time a patient should remain in bed after operation should be changed and since then many other men have also noted this as shown by the long list of such observers quoted by the author. In many instances, the stimulus towards this changed attitude has been precipitated by a personal experience in which a patient got out of bed without permission and did very well thereafter. By this time there is a whole school of thought which more and more insists in early ambulation after abdominal operations. The literature has recently been reviewed by Neuburger in 1943.

The text contains chapters on the general principles underlying this method, the prevention of pulmonary, circulatory, and gastro-intestinal complications; the prevention of dehydration and nutritional disturbances, and on certain psychological factors. There are also sections devoted to proper preoperative, and postoperative management, to surgical technique, and to proper surgical nursing of the ambulatory patient. Finally, the author supports his presentation with the results in 2047 cases, of which 1840 are abdominal operations observed in the author's experience.

According to the author, this modern method is designed to minimize postoperative illness, to prevent complications and to promote rapid recovery, and he presents it as an advance in postoperative treatment.

There is the comparison of the traditional practices and an evaluation in the light of modern physiologic principles and modern technical developments. In doing this, the basic pathologic functional changes which occur after operation are combined into the "laparotomy syndrome" with particular emphasis on those affecting respiratory and vosomotor function and the tone and motility of the intestinal tract. The author's recommendations are planned to correct the functional crippling of these vital systems and they are said to prevent atelectasis, postoperative pneumonia, circulatory failure, thrombosis, pulmonary embolism, distention, wound disruption and other postoperative complications.

The author puts the greatest importance upon early exercise, in and out of bed, especially walking, as the most important single feature of treatment immediately after operation, for lessening any disability and for promoting recovery of respiratory, circulatory and digestive function, with the consequent prompt return of the patient to normal health.

The discussion seems somewhat deficient in that no mention is made of the factor of protein deficiencies and of hyproteinemia. Nor is there much discussion of the factor of age, the general condition of the patient, the character of the illness or magnitude of the operation. The greatest emphasis is placed upon choosing the proper type of incision and the proper suture materials.

The psychological approach to the patient as far as early ambulation is concerned is a somewhat forced one and does not recognize that no two people are alike. Finally, it is not sufficiently recognized that there are some types of operation, the magnitude of which and their character, would forbid early ambulation.

Aside from this, the book is a stimulating one and should be well considered by all surgeons, so that the method, which very many times is a valuable one, may be safely used wherever possible.

Labor Pathology

A Textbook on Pathology of Labor, the Puerperium and the Newborn. By Charles O. McCormick, A. B., M. D., F. A. C. S., clinical professor of Obstetrics, Indiana University School of Medicine; consulting obstetrician to William H. Coleman Hospital for Women, Indianapolis City Hospital and Sunny Side Sanitarium. Second edition, revised. 272 illustrations. St. Louis, Mo.: The C. V. Mosby Co., 1947. Pp. xxi + 514. Price around $10.00.

This book is just that, a textbook, but a good one. Even though the first edition appeared fairly recently, the author and publishers felt that so many new things have developed, that a new edition was justified. We agree with them. Ninety-one new illustrations have been added, ten in color. To quote the preface—the Caldwell-Moley pelvic classification, conduct of the third stage of labor, Burns' technic in breech extraction, the author's technic in external version, cardiac disease, eclampsia and diabetes complicating the puerperium, sudden death during labor and the puerperium, early rising and other subjects have been added to this second edition.

The newer aspects of chemotherapy, including the use of streptomycin, new forms of anesthesia and analgesia, are described.

There is much that is new. This is a readable, reliable, modern textbook.

SURGICAL DIGEST

By RICHARD A. LEONARDO, M. D.

Rochester, N. Y.

Arterial Hypertension due to Urologic Causes Occasionally, a diseased kidney causes hypertension and the other kidney undergoes compensatory hyperplasia. Removal of the diseased kidney reduces this hypertension. If a pheochromocytoma of the adrenal medulla is present, its removal often is followed by a marked reduction in the patient's arterial hypertension.

Varicose Veins Especially in young patients, varicose veins may be due to congenital absence of valves in many of the larger veins. This is an etiologic factor that is seldom considered.

Typhoid Carriers If penicillin and the sulfa drugs (especially sulfasuccidine) do not render the stools negative for the Eberthella typhosa, then a cholecystectomy may have to be done. Recently a few such cases were reported in which the stools became negative after the cholecystectomy.

Internal derangements of the knee According to Lipscomb and Henderson, in 70 percent of the cases there is a history of locking of the knee joint, followed by localized pain, and swelling. Usually the meniscuses alone, the internal one most often, are affected, but often there is associated injury to the ligaments or to articular surface of the patella. Surgery is most helpful when injury is confined to one meniscus, as one might imagine. Only the torn portion of the cartilage need be removed; results are still good, but no better in the instances where the whole of the meniscus was excised. This is an important point to remember.

Nitrogen Mustard in Neoplastic Diseases M. Taffel tried this drug on 16 patients with varying reports. It helped several patients even after radiotherapy was no longer efficaceous. However, no cures were produced. Cases of Hodgkins disease were benefitted the most.

Gastric Polyps Paul and Logan found ten positive and three questionable cases in the course of 1,725 gastroscopies. Diagnosis is best made by a combination of x-ray and gastroscopic examinations. Incidence of malignant degeneration is small. Unless they are very large and appear suspiciously malignant, they might better be left alone. Careful, follow-up gastroscopic examinations at regular intervals, however, are definitely indicated.

Repeated Laparatomies Many surgeons prefer, whenever possible, to prevent undue marring of the abdomen whenever subsequent laparotomies are indicated, by excising the old scar instead of making a new one. Some men also claim ventral hernia and other complication often can be avoided by using an all-wire technic when closing the abdomen. They have many points in their favor; unfortunately, many operating rooms do not have wire sutures.

Extraction of Cataracts According to Otis B. Wolfe, cataract patients obtain their best results when operated upon by the Barraquer technic, which, however, he says "is a specialty within a specialty." Apparently, not all opthalmologists are experienced with this procedure.

Prolapsing Gastric Mucosa In this distinct clinical entity the gastric mucosa prolapses into the pylorus. It is frequently unrecognized by surgeons. X-rays can prove the diagnosis in many cases. Patients lose weight and have crampy abdominal pains, aggravated by food and often relieved by vomiting. Partial gastrectomy is the treatment of choice.

Sump Drainage in Prostatectomy L. E. McCrea designed a sump drain (a motor suction pump device), which, in his experience, effectively drains the bladder, thus helping to prevent moist dressings with necrosis of fascia, pyelonephritis, and other complications, as pneumonia. The procedure seems to be a good one.

Partial Hepatectomy When patients are properly prepared (proteins, glucose, blood and other fluids, vitamin K, etc.) then a primary cancer of the gallbladder, with extension into the liver bed, can be excised safely *en masse*. The moral, however, is to remove the diseased gallbladder with stones before it becomes so chronic that a malignancy supervenes.

The Malignant Thyroid Many cases of "simple nodular goitre" eventually prove to be malignant. It is a prophylactic measure, therefore, to advocate subtotal thyroidectomy (often limited to one lobe) in these cases. It is a distinct mistake to simply enucleate the nodules. The diseased thyroid tissue should be removed *en masse*.

Chorionepithelioma Raima and Jamain reported a case recently that followed a normal pregnancy. Most surgeons have been taught that this condition occurs only after a previous mole has been present in the uterus. This case is therefore of particular interest.

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Bibliographies should follow the style of the Quarterly Cumulative Index Medicus of the American Medical Association, and should give name of author, title of article, name of periodical, with volume, page, month, day of month if weekly, and year.

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MAY, 1948

Medicolegal Notes

Misbranding Obesity Remedy

The owners of an advertised "Reducer", and alleged remedy for obesity, appealed from a judgment of the Federal District Court for southern Texas (45 F. Supp. 52) which found that the product had been falsely labeled and misbranded and shipped in interstate commerce contrary to the Federal Food, Drug and Cosmetic Act. The Fifth Circuit Court of Appeals affirmed the judgment, Sekov Corp. vs. United States, 139 F. 2d 197, holding that the labels on the packages which the appellant alleged were distributed to purchasers were false and misleading in that they represented the product to be safe and appropriate treatment for the reduction of weight.

The testimony of practising physicians, tending to establish this, was held properly admitted. The District Court's power and duty to condemn the misbranded articles was held not impaired by prior proceedings against the appellant by the Federal Trade Commission.

The Circuit Court said that properly admitted testimony of practicing physicians clearly established that the product was not a remedy for obesity; that it would not, as claimed, reduce the figure of a stout woman to the slender proportions shown in the picture on the container; that directions for use of the product were inadequate; and that its use was dangerous to health when used with the frequency or duration prescribed in the directions on the label, whether the patient was or was not "suffering from hyperthyroidism or from hypothyroidism."

Proof that Practitioner is Not Licensed

In a proceeding under the Arkansas Optometry Act of 1941 by the State Board of Optometry to enjoin the defendant from practicing optometry in a specified city without a license as required by the Act, the Arkansas Supreme Court, Daren vs. State Board, 201 S. W. 2d 578, (on appeal from a judgment of injunction, in which the appellant contended that the evidence was not sufficient to show that he had no license under the provisions of the act), held that the testimony of the secretary-treasurer of the Board, who was in charge of the Board's files and records since his 1935 appointment, searched those records and files since the Board's organization in 1913.

It was proved that the appellant had never made any application for a license and no license authorizing him to practice had been issued, and who exhibited a book containing a roster of all men licensed to practice optometry in Arkansas. Although the record book itself was not introduced in evidence, this was sufficient to authorize the issuance of the injunction. Licensed optometrists paid dues to the treasurer, and the appellant had never paid any dues.

Under the Arkansas Act, a man can go thirty days without paying dues and is then suspended. Although the treasurer's evidence was of a negative character, the court considered it sufficient because he had the care and custody of the Board's files and records and was thoroughly familiar with them.

Limitation of Basis of Expert Opinion

In a proceeding which has been before the Appellate Division on prior occasions and is now on appeal by the claimants from a decision of the Workmen's Compensation Board disallowing the surviving widow benefits, and also disallowing a claim subsequent to November 2, 1925, on the ground that there is no casual relation between decedent's injury and subsequent death, the Appellate Division, Bergman vs. Mergenthaler Linotype Co., 72 N. Y. S. 2d 828, reversed the Board's decision and remitted the matter for its further consideration, for the following reasons:

"An expert witness for the Special Fund (for Reopened Cases, which was opposing the claim)

was asked a hypothetical question which he answered. In his cross-examination it developed that his answer was not based on the hypothetical question, but on many other matters which he took into consideration. The answer of the expert, therefore, is of no value here.

"An expert witness should be limited to questions which contain in themselves the facts assumed to be proved and upon which his opinion is based. The opinion of the expert to be of any value must rest upon a sound hypothesis and, if it is without support in the evidence, it is without probative force."

Reopening of Compensation Case for Fraud Denied

Under the Kentucky Workmen's Compensation Act the court, on its own motion or on the application of any interested party, may reopen a case on a showing of change of condition, mistake, or fraud, and may increase or diminish the compensation accordingly.

A miner received severe burns in a mine explosion in 1942. He was awarded compensation of 50 percent permanent disability. The Kentucky Court of Appeals affirmed this award in October 1944. (Bell Coal Co. v. Jackson, 208 Ky. 238, 182 S. W. 2d 775). Subsequently the coal company moved to reopen the case on the ground that, after the Board's award, and while the case was pending in the Circuit Court, it learned that Jackson had been working on a full time basis and had been so employed since July, 1943. By his failure to advise the coal company or the Board of his employment he had perpetrated a fraud on both parties. Jackson's average daily wage while so working was about the same as he had received from the coal company before he was injured.

The basis of the charge of fraud was that on the original hearing Jackson represented himself as being unable to work, being able to do only such light work as carrying coal and cutting kindling.

The medical testimony in Jackson's case in the state court ranged from 5 to 100 percent as to his disability, and when he was asked about his strength he said that he lacked half or more of his original strength.

In the present proceeding Jackson, in answer to the employer's motion, insisted that he had not been found to be totally disabled; that he applied to the coal company for suitable work and was told that no such work was available; and that he could not support his family on the compensation awarded him.

The Court of Appeals affirmed an order refusing to reopen the case. Bell Coal Co. v. Jackson, 301 Ky. 673, 192 S. W. 2d 947. "Everyone", the court said, "is aware of the great demand for labor during the war period, and also the sharp increase in wages . . . When the Board considered the motion to reopen the case it had before it the company's affidavit in support of that motion and Jackson's response thereto. It knew also the character of burns and injuries Jackson sustained when he was injured in the mine explosion.

"There is no provision in the Workmen's Compensation Act which requires an injured employee to report to either his former employer or the Board when he obtains new employment. On the other hand, if the former employer offers him suitable work and he refuses such employment, the Board may deny him compensation. It strikes us that . . . an employee who sustains a partial permanent disability is expected to perform work suitable to his condition.

"It cannot be said that if he is fortunate enough to obtain employment at a greater wage than he was receiving before he was injured he has perpetrated a fraud upon either the Board or his former employer."

Bell Coal Co. v. Jackson was cited and followed in a very similar case, Three Point Coal Corp. v. Moser, Kentucky Court of Appeals, June 11, 1946, 195 S. W. 2d 305, where it was held that where the employee continued to work at the same mine at which he sustained his injury for the greater part of a year after the injury was sustained, the fact that he was employed by a different coal company at the time the motion to reopen the case was made did not indicate any change of condition which would justify a reopening of the case.

Oleander Plant Poison Subject To Cause Death

Because Burleigh Brooks, 55, of Sarasota, Fla., suffered a heart attack several months ago, after inadvertently inhaling some smoke from oleanders he was burning in his yard, a state investigation of the plant's "aroma" took place.

The State Bureau of Narcotics found that "burning oleander wood, bark, or leaves liberates an alkaloid known as oleandrin which is similar in action to digitalis, producing vomiting, abdominal pains, dilation of the pupils, vertigo, convulsive movements, nausea and death. In smaller quantities oleandrin produces a very slow pulse—after three or four days a pulse beat of only 40 per minute has been recorded."

The report concluded: "It is quite understandable that the inhalation of the smoke of the burning bark or leaves of the oleander would produce a heart attack."

Though the oleander has been known to be poisonous, if eaten, since early Grecian days, few admirers of the giant picturesque plant which blooms the year around, suspected that smoke from it could be lethal. Since the plant often grows wild it is sometimes burned in great quantities as a result of brush fires and may cause anything from vomiting to death.

As far as is known, medical authorities have never been confronted with a case of poisoning or heart attack caused by smoke from the oleander and it is possible that illnesses or deaths as a result of inhaling oleandrin heretofore may have been attributed to other causes.

U. of Chicago To House 24 Alaskan Crippled Children

Round trip air transportation will be provided for 24 children from the Alaskan Crippled Children's Service in need of specialized medical care and hospitalization. They will be treated this year at the Home for Destitute Crippled Children, a unit of the University of Chicago Clinics.

A mercy mission undertaken by the home will handle two children each month. These patients head the Alaskan case list of those suffering of the most difficult and complicated orthopedic afflictions. Children under 21 years of age will be admitted and will remain in the clinics for four to six months for medical treatment.

Among the first cases scheduled are a 14-year-old girl with Potts disease of lumbar spine, a seven-year-old girl with T.B. of the hip, and a nine-year-old boy with Potts disease.

The services available include those of orthopedic surgeons, other physicians, and dentists, provided entirely by the University of Chicago, free of all charge to the Home, a graduate nursing service, a social service department, occupational therapists, a bedside teaching service provided by the Board of Education, and complete operating room, x-ray and laboratory services obtained from the respective departments in the University Clinics.

The 57-year-old Home for Destitute Crippled Children was founded in 1891 when Mrs. Emma E. Steele organized a group of interested persons to build and conduct a home and provide for destitute crippled children. In 1911 the Home became affiliated with Rush Medical College and with the University of Chicago.

VA Radio-Isotope Research Units Illustrate New Diagnostic Methods

Chief of VA's radio-isotope section, Dr. George M. Lyon, reported recently that leukemia patients are now being treated with radio-phosphorus in most of the seven VA hospitals having radio-isotope units and that another atomic pile byproduct, radio-iodine is being employed to treat some thyroid diseases.

"It may be too much to expect this new form of treatment to prolong life or cure the leukemia patient," Dr. Lyon said, "but it certainly does reduce the suffering, and makes their days more bearable."

Current reports on the use of radio-phosphorus in treating leukemia indicate that unpleasant reactions frequently produced in these patients by x-ray treatment do not occur—that symptoms resulting from the disease are more readily controlled and that the patient usually has a much shorter stay in the hospital.

Testing the successfulness of radio-iodine as an aid in the diagnosis of thyroid diseases, or of radio-phosphorus in treating leukemia patients, the following steps are taken. First a radioactive substance is administered. Then distribution of the radioelements in the body is checked either by means of sensitive photographic films or with electrical impulse equipment, including the Geiger counter, the device used by engineers in atomic energy plants.

Three widely known radio-isotope scientists serve on VA's Central Advisory Committee. They are: Dr. Shields Warren, Harvard School of Medicine and Atomic Energy Commission; Dr. Stafford Warren, Dean of the School of Medicine, University of California, Los Angeles; and Dr. Hymer L. Friedel, radiology professor, Western Reserve University.

Van Itallie Confirms Efficacy of Fatty Acids For Relief of Athlete's Foot

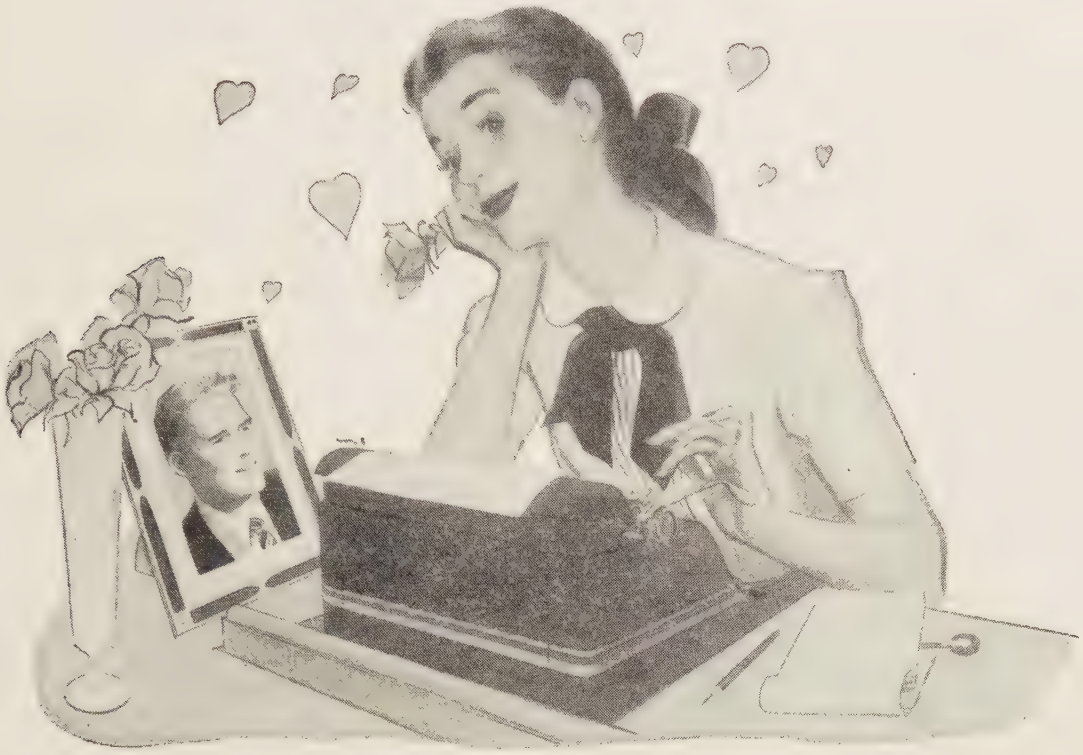
Up to 90 percent of the adult population is subject, in some degree, to tinea pedis (dermatophytosis, "athlete's foot"), according to an address on "Fatty Acids in the Treatment of Superficial Fungous Infections", delivered by Philip H. Van Itallie, of Wyeth Incorporated, before the meeting of the Hartford County Druggist Association, Hartford, Conn., recently.

The investigational work of Dr. Samuel H. Peck and his associates, leading to discovery of the medicinal value of fatty acid compounds, physiological fungicides, was described by Van Itallie, who is editor of *Pulse of Pharmacy*, Wyeth house organ.

Dr. Peck and his co-workers, according to Van Itallie, demonstrated the presence of fatty acids (propionic and caprylic acids) is normal human sweat, and found that they inhabit growth of fungi and bacteria on the skin. Later clinical reports confirmed the efficacy of fatty acids for relief of athlete's foot. Sycosis barbae (barber's itch) and tinea crurae (jock strap itch, ringworm of the groin), he added, responded favorably to the same treatment; and also Candida albicans infections of the ear (otomycosis), vagina (mycotic vulvovaginitis) and mouth (thrush).

Mild yet effective, the therapeutic function of the fatty acids, termed by Dr. Peck "a human antibiotic," is in sharp contrast to the action of the numerous ointments and lotions, some containing powerful chemicals, in earlier use, Van Itallie pointed out. Dermatitis from overtreatment, he said, was a frequent complication, and many patients had superimposed bacterial infections, or allergies induced by

(Continued on page 314)



TO YOUNG WORKING GIRLS — WHETHER IN LOVE OR NOT

When a young girl goes to work, she is apt to look on her job pretty much as a fill-in between maturity and marriage.

Whether in love or not, she's confident that a handsome breadwinner will come along . . . to provide her with a nice combination of bliss and security.

"So why," she may ask, "should I save money out of what I make?"

There are a number of reasons why—all good ones. For example:

(A) The right man might not happen along for some time.

(B) Having money of her own is a comfort to *any* woman, no matter how successfully she marries.

So we urge all working girls—if you're not buying U.S. Savings Bonds on a Payroll Plan, *get started now.*

It's an easy, painless, and automatic way to set aside money for the future. In ten years, you'll get back $4 for every $3 you put in.

Remember, girls—having money of your own may not make you *more* attractive, but it certainly won't make you *less!*

AUTOMATIC SAVING IS SURE SAVING — U.S. SAVINGS BONDS

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269-C

the sensitizing properties of topical remedies.

Combination of caprylic acid with propionates is the latest development in fatty acid treatment of the skin, according to the speaker. In laboratory tests on the resistant Trichophyton mentagrophytes, the proprionate-caprylate mixture inhibited fungous and bacterial growth more effectively, and in clinical treatment controlled symptoms more rapidly than any other preparation previously used, or propionates or caprylates applied separately, Van Itallie asserted. Ringworm of the groin, glabrous skin, hands and nails all responded satisfactorily, he said, while treatment of athlete's foot was especially successful. The propionate-caprylate mixture was claimed by the speaker to be so mild as to be nonsensitizing and almost completely nonirritating.

Marketed by Wyeth Incorporated under the registered trade mark, Sopronol, Van Itallie said that the propionate-caprylate compound is supplied as a solution, ointment and powder. Sopronol solution or ointment (supplemented if necessary by keratolytics), he pointed out, is applied liberally to the feet at night after thorough cleansing. No bandaging or other special precaution is required.

Sopronol powder should be sprinkled into socks, slippers and shoes twice a week. Those who have recovered from an attack of athlete's foot should continue routine prophylactic use of Sopronol Powder after bathing, especially during summer months.

Van Itallie also described Propion Gel, Wyeth, a nonirritating jelly of calcium and sodium propionates in a tragacanth base which is supplied with a special applicator, for eradication of mycotic vulvovaginitis. He reported that in a series of patients at Duke University Hospital the intense itching was relieved in seventy-six hours, and cultures were negative for Candida albicans after two to three weeks' treatment.

Radiation Prevention Research Conducted By The U. of Chicago

By stimulating blood forming tissues in the bone marrow and spleen, anemia ordinarily produced by large doses of radiation was prevented according to Dr. Leon O. Jacobson, assistant professor of medicine at the University of Chicago.

The discovery was reported in *Science* by Dr. Jacobson, E. L. Simmons, instructor in biological sciences, Dr. M. H. Block, senior research fellow, U. S. Public Health Service, Mrs. E. K. Marks and Miss Evelyn O. Gaston of the biology division of the Argonne National Laboratory.

The study reported was initiated during the war to determine whether personnel engaged in atomic energy research (especially women who are commonly anemic) would be more adversely affected by radiation than normal individuals.

This advance in prophylactic research, follows the recent announcement (March 9, 1947) by Dr. Jacobson and Dr. J. Garrot Allen that serious bleeding or hemorrhaging, resulting from radiation injury, can be controlled with certain non-toxic dyes. A commercial dye—toluidine blue—the University

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of Chicago clinicians found, acts as a clotting agent to stop extensive hemorrhage.

The findings in Dr. Jacobson's experiments with animals refute the accepted concept that the more actively dividing cells are the most sensitive to radiation. Animals with regenerative anemia prior to radiation developed no further anemia and recovered immediately.

Animals (rabbits) with normal growing red corpuscles developed severe anemia when irradiated, and the blood-forming cells in the bone marrow and spleen were completely destroyed.

Methods involved in stimulating red corpuscles to prevent radiation damage, as reported in *Science* by the University of Chicago and Argonne investigators, include the administration of phenyldrazine (drug used in the treatment of polycythemia patients, bleeding, or change of oxygen saturation.)

* * *

Henry Ambrose Grundy Brooke (1854-1919) has two diseases named after him. Epithelioma adenoides cysticum, and Keratosis follicularis contagiosa were described in 1892. Brooke claimed as previous examples of the latter rare disease acne sebacee cornee (Cazenave), acne cornee (Leloir and Vical), ichthyosis follicularis (Lesser) and Keratosis follicularis (Morrow). Brooke wrote on many diseases of the skin and had planned a book on dermatology but was disabled by hemiplegia in 1906.

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By a special processing technique developed in the laboratories of U. S. Vitamin Corporation (protected by U. S. Patent No. 2,417,299) Vi-Syneral Injectable combines eight vitamins known to be essential to health in one, stable, clear solution, solubilized in an aqueous base for parenteral use. Each 2 cc. ampul provides Vitamin A 10,000 U.S.P. Units, Vitamin D (calciferol) 1,000 U.S.P. Units, Alpha Tocopherol 2 mg., Thiamine 10 mg., Riboflavin 1 mg., Pyridoxine 3 mg., Niacinamide 20 mg., Ascorbic Acid 50 mg.

Primary Advantages: Vi-Syneral Injectable is ready for immediate use for intramuscular injection, no mixing, no diluting, no heating. It will not cause certain of the painful and irritating effects of parenteral oil solutions. Its comprehensive formula simplifies replenishment of vitamin-deficient tissues in patients who are (1) unable to take food by mouth, (2) suffering from defective absorption, (3) so acutely deficient that delay of intestinal absorption must be circumvented, (4) critically ill with nutritive failure. Many surgical conditions require a parenteral preparation such as Vi-Syneral Injectable to help "build up" the patient prior to operation, and to speed recovery and convalescence postoperatively.

Vi-Syneral Injectable is issued in 2 cc. ampuls, boxes of 6, 25, 100 and 500. More detailed information may be obtained from U. S. Vitamin Corporation (Casimir Funk Laboratories, Inc., affiliate), 250 East 43rd Street, New York 17, N. Y.

Tresamide Tablets Nationally Released

The national release of *Tresamide* tablets, a sulfonamide triad that reduces renal crystalluria and toxic reactions, was announced today by Sharp & Dohme, Incorporated, Philadelphia.

Each 0.5 Gm. *Tresamide* tablet contains sulfamerazine, 0.1 Gm., sulfadiazine, 0.2 Gm., and sulfathiazole, 0.2 Gm.

The sulfonamide triad has been employed in treating several hundreds of patients with acute pneumonia with excellent therapeutic results and no evidence or renal concretions.

In addition to their effectiveness against pneumococci, *Tresamide* tablets are also indicated in the treatment of hemolytic streptococcic, meningococcic, gonococcic and staphylococcic infections.

Crystalluria (the presence of crystals in the urine) is the primary factor causing renal complications in patients treated with sulfonamides. Medical research has shown that the sulfonamides, when administered in combination, are more completely absorbed and rapidly excreted than when administered separately. Thus the possibility of renal injury is greatly reduced.

Suggested dosage for adults is: initial dose 4.0 Gm., followed by 1.0 Gm. every four hours. Children—0.2 Gm. per kilogram of body weight (one-third of this amount initially, the remainder in five equal doses).

Tresamide tablets, 0.5 Gm. each, are supplied in bottles of 100 and 1,000.

Westsal—For Patients On New Salt Diet

Westsal, a new food-seasoning substitute for table salt (sodium chloride) has just been introduced to the medical and pharmaceutical profession by Westwood Pharmacal Corp., Buffalo, N. Y., makers of Westhiazole Vaginal and Lowila.

Westsal is a liquid which is said to taste exactly like salt, imparting to edibles the same saline zest of sodium chloride. It can be freely and safely sprinkled on food at the table or in cooking and baking.

Designed for use by patients who are placed on a limited sodium intake, Westsal is useful in congestive heart disease (and certain other cardiac conditions), selected renal disorders, hypertension, toxemias of pregnancy, cirrhosis of the liver, epilepsy, and in the Gerson diet in tuberculosis.

Westsal gives flavor to food that would otherwise be tasteless to and uneaten by many patients. It keeps patients from "cheating" on their low-salt diet. Thus, Westsal (1) efficiently curtails a harmfully high sodium intake, (2) maintains appetite, an adequate caloric intake, and better nutrition.

Westsal is available in special sprinkling bottles of 2¼ oz. Detailed literature can be received from Westwood Pharmacal Corp., 468 Dewitt St., Buffalo 13, N. Y.

Simple Arithmetic Shows That Overweight Conditions Are Caused By Overeating

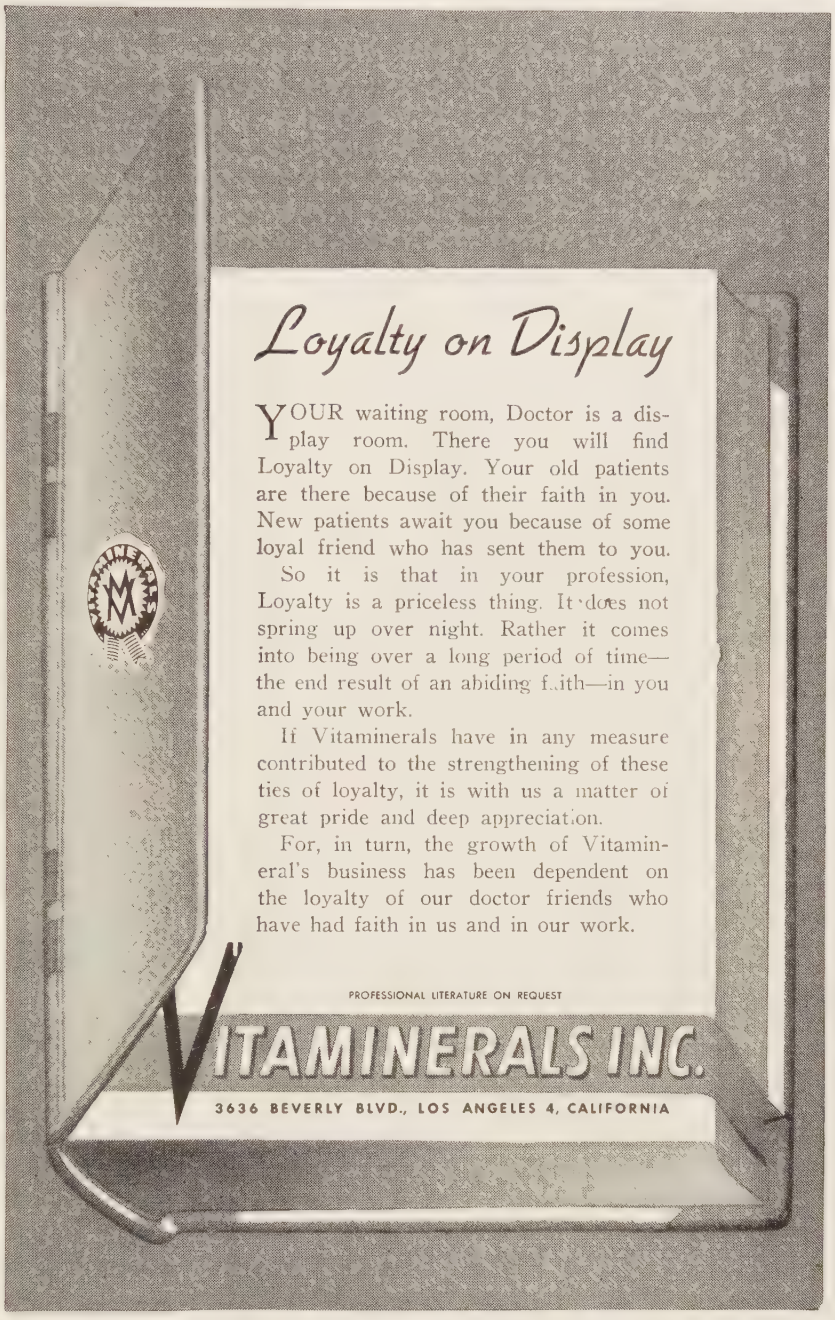
Army doctors are convinced that the only way to get fat is by overeating.

The Army Medical Corps attending a course in basic science at the Army Medical Department Research and Graduate School, Army Medical Center, Washington, D. C., stressed the above point which they said had been reached only after years of experimentation in both the United States and Europe. The simple formula proves that the body takes in more than it puts out and the excess is stored in the chemically highly complex fat tissue.

Dr. Louis H. Newburgh, professor of clinical investigation, department of medicine, University of Michigan, reported at the meeting that it was long supposed that certain pathological conditions of obesity resulted from deficient secretion of one of the hormones from the anterior lobe of the pituitary gland in the brain. The removal of the pituitary in animals has produced no such effect. In humans anterior pituitary deficiency does cause a condition that can be mistaken for obesity, especially in women, but there is no notable increase of weight.

Abdominal walls are weakened so that the internal organs tend to bulge outward, but there actually is no more fat than before.

Dr. Newburgh concluded that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YOUR waiting room, Doctor is a display room. There you will find Loyalty on Display. Your old patients are there because of their faith in you. New patients await you because of some loyal friend who has sent them to you.
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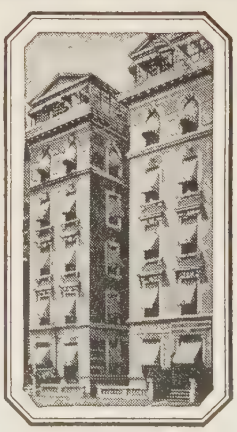

obesity is never produced by increased or diminished activity of an endocrine gland. No internal secretion is capable of so changing the metabolism that the total amount of fat in the body will increase unless the inflow of calories is greater than the outflow.

Thus it all comes down to a question of appetite. Particularly in humans, Dr. Newburgh pointed out to the Medical Corps officers, this is an inadequate guide to proper eating. It is effected by education, by family, local and racial customs, and emotions so that it no longer has any close relationship to hunger. Ideally, one would eat only when hungry and there probably would be no fat people.

"Appetite," he said, "is, strictly speaking, a sensation produced by happy memories. Desire for food may be an expression of real hunger, but it is more generally a response to habit or to the anticipation of pleasure. Fright, fear, sorrow, illness, and displeasing sights and smells depress or even abolish it. It is stimulated by foods that give off pleasant odors, that please the eye and the palate. Happy recollections and good companionship are conducive to overeating."

It long has been recognized that women crossing middle age tend to get fat. They often are assured that this is due to sex gland changes accompanying the menopause. There is no such relationship known Dr. Newburgh said. This, however, is the stage of life when women tend to become less active. At the same time fashion no longer dictates

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In addition to the relief of menopausal disturbances, DPS Formula 320 is indicated for the management of certain instances of menorrhagia and metrorrhagia and also to be used in conjunction with Progesterone in secondary amenorrhea.

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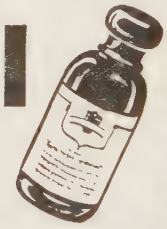

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a slim figure. Hence they become careless of eating, especially candy, and grow fatter and fatter, consoled by the assurance of their friends that this is inevitable and that they can do nothing about it.

More obscure is the emotional spur to overeating. Some take to food in time of trouble as others take to drink, and both appetites are likely to pass beyond the control of the individual.

"There are persons, "Dr. Newburgh said, "who are struggling with a problem—sexual, social or financial—for which they can find no solution. But they have discovered that they obtain temporary solace by eating. For them food acts as a balm, as alcohol does for others who find life too hard. We have seen many obese patients who, either deliberately or without being aware of the situation, have turned to food as a means of relieving pent-up emotions."

"Weight," he continued, "always can be reduced by adherence to a restricted diet, but cooperation by the patient is unlikely until the nature of obesity is elucidated and his particular reason for overeating has been discovered and explained to him. Lack of immediately disabling features and of severe pain make it so easy to find excuses for deare unaware of the threat to life laying treatment. Most patients that obesity entails."

WHO Works on Unification of Pharmacopoeias

The Expert Committee on the Unification of Pharmacopoeias had 543 drugs under consideration for inclusion in an international pharmacopoeia as one phase of the work of its first session in Geneva. Of the drugs discussed, 248 were deemed of primary importance for immediate attention and inclusion, 90 were classed as valuable but not of immediate importance, and 205 were excluded after discussion.

Seventy-three monographs on drugs to be included in the international pharmacopoeia have now been adopted by the Committee. In addition the Committee decided to include a table giving the mode of administration and doses, agreed on the necessity for an international nomenclature of new drugs, and discussed the inclusion of trademarked drugs.

Also on the Committee's agenda was a detailed review of the work of its predecessor, the Technical Commission of Pharmacopoeial Experts set up by the League of Nations Health Organization, and the group decided to continue the main part of the work in the same manner.

Personals

Professor *J. H. Bodine,* head of the University of Iowa zoology department, has been formally appointed as director of the Iowa Lakeside Laboratory by the state board of education.

Under the plan recently outlined by the state board of education, students and faculty in zoology and botany come to this site during the summer to study and learn about Iowa's native animal and plant life.

Newly designated assistant medical director for professional service in the Veterans Administration Department of Medicine and Surgery is *Dr. Roy A. Wolford* of Washington, D. C. A member of the VA medical staff since 1924, Dr. Wolford succeeds Dr. Magnuson as chief of professional service. He became acting assistant medical director for professional service on January 16, 1948 when Dr. Magnuson was appointed chief medical director.

VA's professional service supervises and coordinates specific activities of the General Medical Division, the General Surgery Division, the Neuropsychiatric Division, the Tuberculosis Division, and the Professional Inquiries unit.

Dr. Theodore G. Klumpp, president of Winthrop-Stearns Inc., was elected president of the American Pharmaceutical Manufacturers Association. Before he became associated with Winthrop, Dr. Klumpp taught internal medicine at Yale University Medical School, was adjunct clinical professor of medicine at George Washington University, was chief of the Drug Division of the United States Food and Drug Administration, and director of the Division of Drugs, Foods, and Physical Therapy.

Dr. Andre Lwoff of the Pasteur Institute, Paris, delivered the 45th annual Christian A. Herter Lecture at New York University College of Medicine on, "Aspects of Biochemical Evolution."

The Herter Lectureship was established by Dr. Herter in 1904 to provide annual lectures on advances in medical science. Dr. Herter was professor of chemical pathology at the College, at that time known as the University and Bellevue Hospital Medical College.

Dr. Dilworth Wayne Woolley, totally blind recently received from the American Pharmaceutical Manufacturers' Association its highest honor—the Research Award for 1948.

Dr. Woolley, who received his doctorate from the University of Wisconsin, controls his experiments, makes his deductions, gauges future procedure, and strikes his conclusions. In this way he pursued in research which has made him one of the nation's few authorities on antimetabolites.

Each of these newly discovered compounds in nature is an analogue of some water soluble vitamin; that is, chemically similar to the vitamin but its direct opposite in reacting on living organisms. This same reverse relationship also exists between antimetabolites and some hormones. According to Dr. Woolley, the *active* cause of deficiency diseases like pellagra is not so much the *absence* of an essential vitamin as it is the *presence* of an antimetabolite which that vitamin could successfully combat.

The antimetabolite of pellagra, or, as Dr. Woolley styles it, "The pellagragenic factor" was, indeed, one of eighty odd studies which he has already published in a score or more scientific journals. By throwing new light on this disease alone, the young scientist has made a special contribution to public health in those Latin American countries where pellagra has long been prevalent.

Doctors Jean Dausset and *Claude Lapresle,* both of Paris, are the two French physicians who have been awarded fellowships to take a 12-month postgraduate course in allergy which will be offered next fall by the University of Illinois' college of medicine and pharmacy.

They were recommended for the fellowships by Dr. Hugues Gounelle, a consultant for American Aid to France, and Dr. Andre Lichtwitz, chairman of a military-medical mission to the U. S. in 1945. At that time, Dr. Lichtwitz designated the University of Illinois as the college to train French physicians in allergy.

Selected as new dean is *Dr. Mayo Hamilton Soley* and *Dr. William Bennett Bean* who has been appointed professor of medicine and the head of the Department of Internal Medicine in the College of Medicine at the University of Iowa.

The 40-year-old Dr. Soley, in addition to deanship, will serve as the director of medical services of the University Hospitals and as a Research professor in the Department of Internal Medicine.

Dean Soley's special interests in medicine are: diseases of thyroid, respiratory physiology, and anxiety states. He has published extensively in these fields. He is nationally known for his investigations on the therapeutic use of radioactive iodine in thyroid disease.

Harris L. Friedman, Ph.D. has been appointed chief of the chemistry division, Lakeside Laboratories, Milwaukee. He was formerly director of the division of pure research of Pyridium Corporation. A few of his patents include a sulfadiazine intermediate, sulfapyridine derivatives, a process for niacinamide, anti-tuberculosis compounds, etc.

Walter Starnes, a psychiatric aide at the Winter VA Hospital, Topeka, Kans., was named the first recipient of the newly established National Mental Health Foundation Psychiatric Aide of the Year Award.

The award was established last year as part of the Foundation's campaign to encourage the adoption of higher standards of care in mental hospitals. In recognition of his outstanding service, Starnes is receiving $500, plus a citation.

Dr. Karl A. Menninger, manager of the hospital, commenting on the selection said, "The National Mental Health Foundation, in initiating its yearly award for the outstanding psychiatric aide, is calling the attention of the public to a group of people whose service is rendered far away from the public eye and whose excellence can only be judged as one judges the excellence of one's own friends. The psychiatric aide is, in the last analysis, the friend and companion of the mentally ill."

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Female	114.7	116.4	117.7	118.7	120.4	123.6	127.1	129.8	132.5	133.7	135.4
DIASTOLIC **Male	76.4	78.1	78.8	79.5	80.4	81.4	82.3	83.3	84.3	84.5	84.0
Female	75.8	77.1	78.0	78.6	79.9	81.9	83.9	85.4	86.8	86.8	84.4

**Fourth phase

*Blood Pressure. Report of Joint Committee on Mortality of The Association of Life Insurance Medical Directors and The Actuarial Society of America. New York, 1925. pp. 10, 52.

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